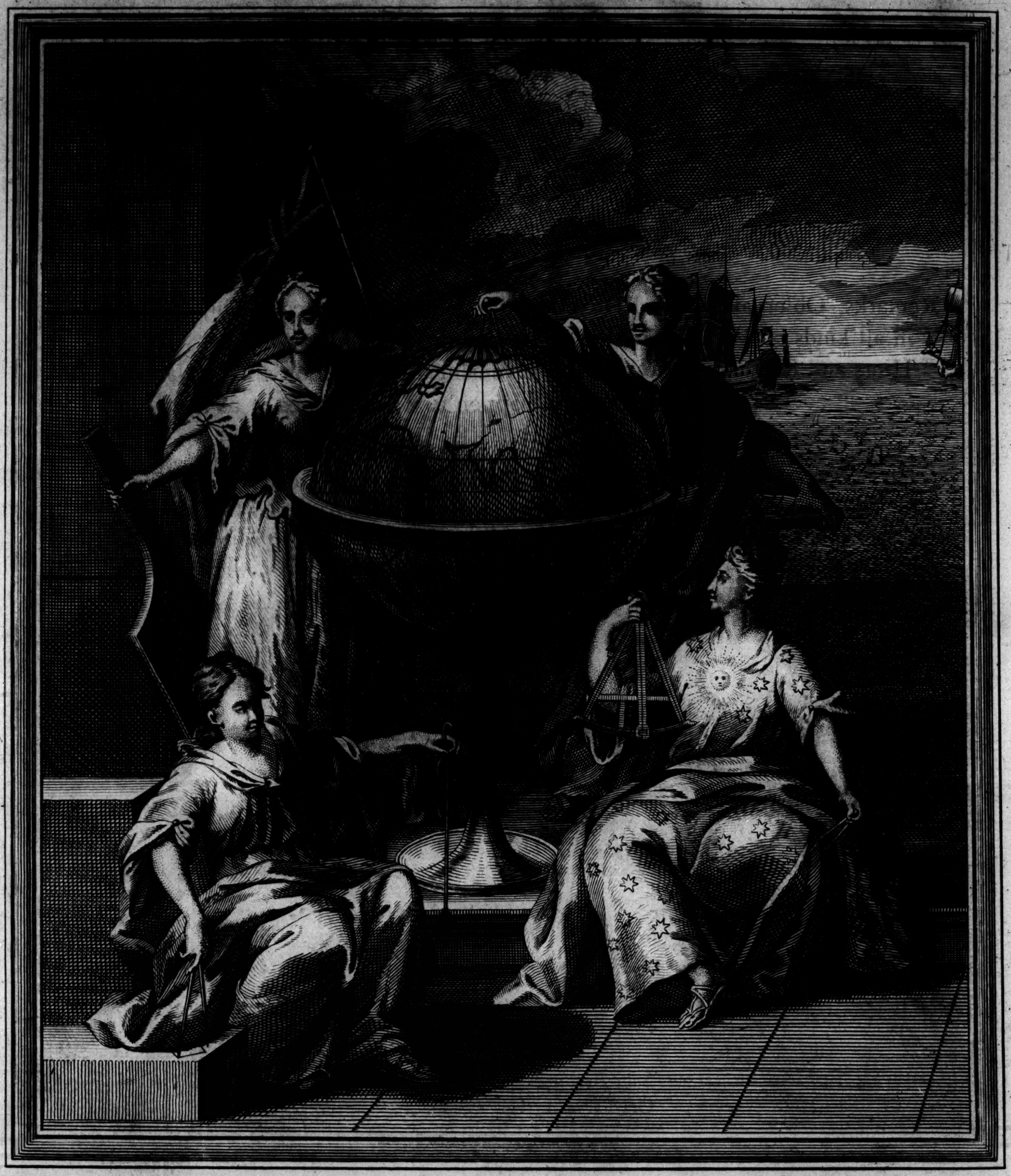

View the great Globe; let it thy Wonder raise;
'Twill raise thy Wonder, but transcend thy Praise.
How far from East to West the labouring Eye
Can scarce the distant azure Bounds descry:

View Cityes, Armies, Fleets, of Fleets the Pride,
See Europe's Law, in Albion's Channel ride.
View the whole Earth's vast Landskip unconfin'd,
Or view in Britain all her Glories joind.

Young.

These most excellent Remarks & Advice are deserving a Reprint and should be issued with the Naval Instructions to all HM Ships. as much good if such A TREATISE must instill into the mind

ON

PRACTICAL NAVIGATION

AND

SEAMANSHIP,

WITH

Remarks, Obſervations, and Directions for managing and conducting a Ship in all kinds of Weather, either under Sail or at Anchor, with many uſeful Hints and Remarks by way of Improvement to Navigation and to Navigators, in every Occurrence that can happen to a Ship at Sea or at Anchor.

AND ALSO,

A full and clear Deſcription of the Engliſh Channel, with diſtinct and clear Directions for ſailing down the Channel from the Downs weſtward; alſo particular Directions for a Ship coming from the Ocean, and entering the Engliſh Channel, with Directions for ſailing up the ſame to the Downs, both in fair and foul Weather, with whatever is neceſſary for the Seaman to know by way of Improvement.

TO

MAKE SHIPS, AND THE MANAGEMENT OF THEM,

AND ALSO

NAVIGATION IN GENERAL MORE PERFECT,

AND

Conſequently leſs dangerous and deſtructive to Men's Lives and Property:

TOGETHER

With the Method the Author adviſed, and which was adopted in Scenes of the greateſt Diſtreſs at Sea, in a violent Storm.

By WILLIAM NICHELSON, Master Attendant at Chatham & Author of his Voyage to the Eaſt-Indies, in His Majeſty's Ship Elizabeth, Publiſhed in the Year 1765. & the Indian Seas Directory - ever found good

TO WHICH IS ADDED,

AN APPENDIX,

Containing Remarks on various Subjects, and on the particular Situation of the Centre of Gravity in a Ship, &c. &c.

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B. W. Page's

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Directions to the BINDER for placing the *Plates* in Mr. NICHELSON's Work.

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The Elizabeth in Diſtreſs, ſcudding under the Gooſe-wing of the Foreſail, to come in at	Page 216
The Elizabeth under ſail, ſteering with the Machine, to come in at	224
The Grafton at anchor in Diſtreſs, to come in at	245
The Grafton under ſail, ſteering with the Machine, to come in at	249

PREFACE.

THE many years I have uſed the Sea, and the different parts of the World I have been in, has given me ſeveral opportunities of making ſome uſeful remarks and obſervations, and as my particular attention has been taken up in that way, having a natural propenſity to things of this kind; I ſhall therefore beg leave to mention ſome remarks and obſervations I have long thought of, and have well weighed and digeſted in my own mind, and without further apology, ſhall lay them before the ingenious navigator, for his ſerious conſideration and attention. I hope he will find ſomething in them that is both new and improving, and that may be of uſe to Seamen in general.

I muſt here beg leave to mention, that I at firſt intended thoſe additional remarks and obſervations, as an addition or Supplement to the Book of my Voyage to the Eaſt Indies, publiſhed in 1765, and the Second Edition of the ſaid Book publiſhed 1766 with additions, by which I thought I ſhould have all my remarks and obſervations together in one Book, but finding that the following remarks and obſervations are ſo many, as will be ſufficient to form a Work of themſelves, I therefore intend to make a ſeparate publication of them.

I muſt acknowledge, I did not intend to have given myſelf any further trouble in making a publication of this kind, ſo many years after my former publication, when ſome things were partly worn out of my mind, by the great hurry of buſineſs I was employed in during the laſt war, at Portſmouth, being Maſter Attendant there all the War. My principal inducement for a ſecond publication is, the favourable reception my former publication met with from the Gentlemen, Commanders and Officers in the India ſervice, and alſo from Commanders and Officers in the Navy, who have ſailed in thoſe ſeas ſince I publiſhed my Book of Directions for the Navigation in the Indian Seas. I cannot but find myſelf happy for the many genteel, civil and obliging things that have been ſaid to me, by gentlemen of all ranks that have ſailed in the Indian Seas, ſince I left that country, for which I think myſelf extremely obliged to them for their generous and candid behaviour to me; and many gentlemen, whom I never ſaw, ſent me let-

from 1770 to 1784.

ters of a very obliging nature, on the account of my publication, which was truly pleaſing.

From the many civilities I have received from the gentlemen before-mentioned, and at their particular requeſt, which was, that they wiſhed me to ſay ſomething more of the Engliſh Channel than I had ſaid in my former publication, and looking upon myſelf in ſome meaſure bound by their great civility and candour, to comply with their requeſt, is my principal inducement for this publication, which has coſt me trouble, care, and much time, in collecting my thoughts together to furniſh materials for the work I am now to treat of, which is of great conſequence to ſea-faring men in general; that is, a true knowledge of the Engliſh Channel; and I am ſorry to ſay by my own experience, that I have found many men who have had the care of navigating ſhips of conſequence up and down the Channel, have had but very imperfect ideas of the navigation of it. It is of the utmoſt conſequence to a ſeaman, to have a right knowledge of the navigation of the Channel.

I cannot but lament ſaying, I know nothing more wanting, than proper directions for the Engliſh Channel, and for ſailing in and out of the principal harbours. Nothing of this ſort has been done ſince Grenville Collins publiſhed his Directions in 1685 for the Channel, which is very imperfect indeed. He gives you only the ſoundings a-breaſt of Scilly, and from thence to the Lizard. He gives you no ſoundings to the weſtward of Scilly, that being the principal thing wanted; he, like all others that have copied after him, ſuch as ſchoolmaſters and teachers of navigation, has pretended to give directions for coming into the Engliſh Channel, and for ſailing up and down the ſame, by tracing the coaſt along in ſhore, giving you the courſe and diſtance from place to place, and giving a deſcription of dry harbours, creeks, and inſignificant places, where ſhips cannot go, and with which the Commanders of large ſhips have nothing to do, and is only fit for coaſters to know. Perſons who have the care of large ſhips coming out of the ſea, wiſh only for directions how to keep their ſhips in the fair way, and to know where they are by their ſoundings, and how far they have got up or down the Channel by their depth of water, and wiſh to have proper directions for ſuch places as may be proper for their ſhips to go into, &c. Theſe gentlemen, who ſay they have publiſhed proper Directions for the Engliſh Channel, not being ſeamen, ſay their remarks and obſervations are obtained from our moſt experienced Navigators, and Channel Coaſters, with whom they have conſulted,

and

and to whom they are obliged for their information, without they themſelves knowing any thing of the matter (wholly relying on what other men ſay, without knowing whether it be right or wrong,) truth or falſehood is what they cannot anſwer for, and therefore all that ſuch people have ſaid, or may ſay, ought to weigh but little in the ſcale of reaſon, or with reaſonable men in matters of this kind. The Author of ſuch remarks and directions ſhould be a ſeaman, who can ſpeak pointedly on ſuch ſubjects from his own knowledge and experience, and ſuch a man's remarks, obſervations and directions, may be much more relied on, and will appear more reaſonable to every man of ſenſe and knowledge of ſea affairs.

Some Remarks and Obſervations on the Great importance of a thorough knowledge of the Engliſh Channel.

It certainly behoves every ſeaman who has any thing to do with the care or management of a ſhip in navigating her up and down the Channel, to have a perfect knowledge of it; and I am fully perſuaded that a thorough knowledge of the Engliſh Channel is abſolutely neceſſary to conſtitute a good Seaman, an able Officer, or a brave Commander, for without this knowledge they may be ſaid to be very improper Officers, and unfit to diſcharge that weighty concern they have taken upon them, and have much to anſwer for to their Country. Whoever will duly weigh in their own mind the important conſequence that Trade and Navigation is to this Country, and will conſider the vaſt wealth conveyed through the Engliſh Cannel, and the great number of ſhips which have been loſt in it, muſt upon ſerious reflection, conclude that a perfect knowledge thereof is of the utmoſt importance to Trade and the commercial concerns of the Nation, and it ſhould be the great ſtudy of ſeamen to attempt to render its navigation more eaſy and ſafe; and ſhould their endeavours prove inſtrumental in ſaving the property and lives of their fellow ſubjects, their troubles will be well rewarded, as it will redound ſo much honour to themſelves, and will prove of great advantage to poſterity, who will bear a grateful remembrance of their virtuous actions, when they are no more, and they it is to be hoped are reaping the reward of their virtuous and paſt actions when they were on this ſide of time.

This brings to my mind another pleaſing reflection, which is the great character of a Merchant; this is an ineſtimable character, and may be reckoned amongſt the firſt characters in a commercial country. The merchant is the firſt ſpring and ſource of all trade and commerce, to him we are beholden for the great wealth that has flown into this kingdom at all times, and in all ages, he is the principal ſpring and encourager of agriculture, manufactories and manufacturers, and the encourager of all ſorts of trades, and the principal ſource and ſpring of trade and navigation; he loads his ſhips with the produce of his country, and ſends them abroad to foreign countries with rich and valuable cargoes, who after certain periods of time return with ſtill richer cargoes, which bring in a great revenue to the ſtate, and enriches himſelf and all thoſe concerned in trade and commerce with him, and he becomes a bleſſing to the community. But this principally depends on the care, wiſdom and abilities of thoſe who have the management and care of navigating his ſhips on their voyage, the ſkillful and experienced ſeaman and navigator, the hope of the good, and ſucceſs of the voyage greatly lies with the Commander of the ſhip, and in a great meaſure depends on his experience and care as a proper and judicious Seaman.

But if the Merchant ſhould unwarily truſt his ſhip to the care of an unexperienced and negligent Commander, who neither knows nor cares about the matter, how altered is the ſcene, the ſhip is wrecked, the crew periſhed, and the cargo loſt, the merchant becomes a bankrupt, the manufacturers ſuffer, the tradeſman ruined, and all concerned are involved in that buſineſs and brought to ruinous calamity. Suppoſe a man has brought ſuch misfortunes upon himſelf, his employers, his friends, and benefactors, through the want of ſkill in his profeſſion; how muſt he feel himſelf, if this loſs happened through ignorance, inattention or neglect. Oh! how ſtrong muſt be his remorſe of conſcience, if he is capable of reflection. This idea alone, I ſhould think would induce every ſeaman to make himſelf thoroughly acquainted with the buſineſs of his profeſſion, but particularly with the knowledge of the Engliſh Channel, which would tend greatly to his advantage, and would much leſſen his care and anxiety, and would enable him to go through his buſineſs with pleaſure, eaſe and comfort, and ſafety to himſelf and all about him. I am very ſorry to ſay, many have been the loſſes I have known to happen to ſhips, through want of experience and profeſſional knowledge. I ſhall ſay more of this in the work itſelf.

The

The Engliſh Channel is moſt certainly a dangerous navigation at all times, but particularly in the Winter, and when the navigator is entering it, then ſhould he act with caution and care. It ſometimes happens, and that too frequently, that when ſhips which have made long and dangerous voyages, and are coming home richly laden, have been ſhipwrecked on their native coaſt, whereby both merchants, owners and mariners have been impoveriſhed. All our neighbouring Nations will acknowledge, that no Nation abounds with more ſkilful and experienced ſeamen than our own, none meeting danger with more courage or bravery, none taking more care, or uſing more circumſpection to prevent it, or more laborious to overcome it. It ſometimes happens, that in long voyages, the Maſter, Mate, and the moſt knowing men in the ſhip have died, and the ſhip has been brought into ſight of land by thoſe who have ſkill enough to conduct the ſhip at ſea, but are wholly unacquainted with the Channel, and the coaſt and harbours thereof; or having but little knowledge, dare not truſt to it in ſuch caſes, and to ſuch perſons the following Remarks and Obſervations, I hope will ſerve in the room of a Pilot. It is but too well known, that as many ſhips are loſt by ignorance and negligence, as by ſtreſs of weather, ſo that the Maſter of a ſhip hath a great charge, and ought to be a ſober man, as well as a good ſeaman and ſkilful navigator; all the helps of art, care and circumſpection are to be uſed by him, that the lives of Mariners, the moſt uſeful of his Majeſty's ſubjects, and the fortunes of honeſt and worthy Merchants under his care may be preſerved, which is the principal intention and deſign of my preſent publication, and my ſincere wiſhes are, that proſperity may attend them.

Some Remarks and Directions for coming into the Engliſh Channel, between England and France.

The Mariner having left the vaſt Ocean, and brought his ſhip into ſoundings near the land, amongſt tides or ſtreams, his art of navigation muſt now be laid aſide, and pilotage taken in hand. The nearer the land, the greater the danger, therefore the care of the mariner ought to be the more.

Being in a tide's way and narrow channel, rocks and ſands, I muſt beg leave to recommend to the ingenious mariner's care and mature conſideration, your tides, courſes, ſoundings, and the goodneſs of your compaſſes, and to keep the lead conſtantly a going when it can be done, and to pay a particular regard to the

the ſoundings, with regard to the depth of water, and the ſort of ſoundings, though the latter is not ſo much to be relied on.

The next thing I would recommend to your care, is the ſetting of the tides, which alters the courſe, to the loſs of many ſhips, eſpecially when you ſail cloſe upon a wind; then, if the tide takes you on the weather bow, you will fall much to leeward of your expectation, and if the tide takes you on the lee bow, it carries you the windward of your expectation.

Coming out of the ocean, and having got into the ſoundings in the Chops of the Channel, which you may know by the water being diſcoloured, your beſt help is a good obſervation of the latitude; the next obſervation is your depth of water, with the colour and quality of the ground and ſort of ſoundings, though I muſt ſay this varies very much, and is uncertain, as I have found by experience in ſounding, that it ſeldom happens that two caſts of the lead are alike in quality, ſo that I would not have any truſt to it, but be principally governed by the depth of water, (with this one obſervation) that is to be in general obſerved, that the ground to the ſouthward on the coaſt of France is more coarſe or gruffer; that is to ſay, the ſand is more coarſe or more gravelly, bigger ſhells, and more variety than on the coaſt of England or to the northward. But to the northward, and on the coaſt of England, the ground is finer in general. For 5, 6, 7 or 8 leagues to the ſouthward of Scilly, you will have from 60 to 62 or 64 fathom water, fine white ſand, with ſome red and black amongſt it, and ſometimes ſome ſmall ſhells or pieces of ſhells, and at other times white ſand only. But more of this in the Work itſelf.

I muſt here take notice of the great uncertainty of ſhip's reckonings at ſea, when ſailing on the vaſt Ocean, and how little dependance people ought to put in their reckonings, unleſs they are very circumſpect in keeping them, as there are many things they will meet with, which will deceive and miſlead them, ſuch as ſtrong and uncertain currents, which ſhould be carefully noticed, and proper allowance made for them, and which ſhould be a great part of the navigator's ſtudy. This will alſo be more fully explained in the Work itſelf.

I am rather of opinion that ſhip's reckonings are often much out, by their want of attention to the length of their half minute glaſſes, the meaſurement of their Log-line, and to the heaving of the Log. I have often ſailed in company with ſhips that have been in a freſh gale of wind ſailing 8, 9 or 10 knots, when we have

have not gone ſo faſt by one, one and an half, and ſometimes two knots, yet they only ſailed a-breaſt, and did not go an inch a head of us; theſe ſhips muſt have many more miles on their Log-board in 24 hours than we, and in running the diſtance of a thouſand leagues would make a number of leagues difference; This I have often experienced in a paſſage, that ſhips in company have made one fifth, or ſometimes more difference in the diſtance run more than we had done, entirely owing to their paying no regard to the length of their glaſſes, and to their marking the log-line too ſhort, which is an abominable and ſhameful neglect, as it can ſo eaſily be avoided, and otherwiſe may be attended with the moſt dangerous conſequences; and another great miſtake in heaving the log is, the too often ſending the young men and unexperienced people of the quarter deck to heave the log, who are entirely incapable of judging what allowance to make, whether there has been more or leſs wind, or more or leſs ſail made, or if the wind has hauled more forward or come more aft, ſince the log was laſt hove, &c. This is a matter that requires the niceſt inſpection and judgment of the moſt experienced and judicious Officer, but it is too often neglected.

People too frequently take it for granted, that the half and quarter minue glaſſes are the juſt length they are marked upon the end, or ſometimes both ends, with a pen and ink, 28, 29 or 30 ſeconds, which I have reaſon to believe are marked by gueſs, without any regard to the true time, for which reaſon I have always made it a rule to try and prove the glaſſes before the ſhip ſailed out of port, to proceed on her voyage to ſea, and ſcarce ever found a glaſs marked right. I have ſeen one marked 27 or 28 ſeconds, which I have found upon trial to be full 30, and others that have been marked 30 ſeconds have not run more than 28. Thus people are led into an error, by marking their log line according to the time of the glaſs, as they find it marked, without trying or proving its exactneſs, which may be very eaſily done, and what I would recommend to all commanders of ſhips to ſee done, as a thing of the greateſt conſequence to them, particularly in long voyages.

And when the half minute glaſſes are found to be 30 ſeconds, which is what they ſhould be, then ſhould the log-line be marked 50 feet to each knot, that being, according to the opinion of thoſe learned men who have meaſured a degree of the meridian in different parts of the Earth, the moſt exact proportion to the meaſurement of a Terreſtial Degree, and is what I have always marked the Log-line, and in general I have found my reckonings as exact as moſt people's in either

long

long or ſhort voyages, and if it ſo happens that a perſon ſhould have no glaſs of thirty ſeconds, then let the log-line be ſtill marked in the ſame rule of proportion; which is, if a glaſs of 30 ſeconds gives 50 feet to a knot, how many ſhould a glaſs of 28 ſeconds give. Anſwer, $46\frac{6}{7}$ to a knot, &c.

However, I would not have any one depend upon, or truſt too much to their dead reckoning in broad ſeas, for their longitude, but to convince them of its error by comparing the longitude by account with the variation and the known longitude of the Iſlands, Capes or Headlands they are near, according to the variation, and this I will venture to ſay is far more to be depended on, particularly in India voyages, than any other method yet diſcovered.

This attention is what I would wiſh every ſeaman to pay to the variation, and and not ſo blindly to follow a practice, that common ſenſe muſt convince every man is ſubject to error in every part, I mean the dead reckoning, particularly in broad ſeas; and any extenſive navigation where the height and quick increaſe and decreaſe, as well as change of the variation, is evidently as certain a guide as the ſun at noon, for diſcovering the latitude; this induced me to mention thoſe teſtimonies that may lead others to purſue a track in which, as there is a certainty, ſo there is a ſafety; for by Celeſtial Obſervations, if care is taken none can err, and this muſt undoubtedly make paſſages more expeditious, as well as ſecure.

Many are the fatal conſequences that has befallen ſhips in the India trade, from people not paying due attention to the variation, which is ſtill too much neglected, as from very recent inſtances is evident. Some having been wrecked on the Coaſt of Guinea, or on the Cape de Verd, others on the Cape de Verd Iſlands, one very lately on the Iſland Bonaviſta, others run aſhore on the coaſt of Brazil, merely through inattention to the variation, for were they ſtrictly to obſerve the variation, and make it their ſure guide, which undoubtedly it is, they could not commit ſuch groſs errors. I ſhall therefore mention what I myſelf have purſued and found unerring, and what is approved of, and ſupported by the opinion of ſome very experienced Commanders in the India Service.

Before I leave this ſubject of the Variation of the Compaſs and Magnetic Needle, which I think one of the greateſt myſteries of Nature, and in my opinion nothing can ſtrike the Human Mind with more aſtoniſhment and wonder, than to think of the wonderful effects of Variation. About a Century and an half ago it was eaſterly in the Engliſh Channel. There was a time when there was no variation, it then became weſterly, and has been increaſing by ſlow degrees to be at this

this time near 24 degrees in the Engliſh Channel, the wonderful cauſe of its changing from eaſt to weſt, and the riſing to the height it is now in the Engliſh Channel, and why ſo high in ſome parts of the globe, and but little or none in other parts, and why eaſterly in ſeveral parts of the Globe, whilſt it is weſterly in others; and in many parts of the Globe there is no variation at all! This is a wonderful thing to conſider ſeriouſly of, and has employed the thoughts of the greateſt men and Philoſophers that have lived, but they all fell ſhort of being able to account for its cauſe. It is a phenomena of Nature, and ſeems to be a ſecret that God has been pleaſed to reſerve from the knowledge of mankind, until he ſhall pleaſe, in the fullneſs of time, that it ſhall be diſcovered; and when that time may come, it is my opinion ſome wonderful diſcovery will be made known to mankind, which may tend much to their good and advantage; and if this ſhould be the caſe, how ought it to ſtrike the Mariner's mind, and induce him to be a ſtrict and careful obſerver of the variation, in every part of the Globe he may happen to ſail in! It has been the Author's principal care, his ſtudy and peculiar pleaſure, conſtantly to obſerve the variation, Morning and Evening, at ſea, or ſailing Coaſtways, and in every Harbour wherever he went, as his former Publication will ſhew, and he can venture to ſay, that he has made as many obſervations of the variation, as any Navigator who lived in the age he lived in.

I muſt here beg leave to ſay ſomething more upon the variation, which has for many years paſt been much neglected, and is ſtill too much ſo, which is ſurprizing to me, that a thing of ſuch conſequence to Navigation, and to Navigators, ſhould be ſo little noticed, when it is a thing that muſt give ſo much pleaſure to a reflecting mind. It therefore has ſurpriſed me, that any man, with ſuch a guide as the variation is, ſhould either ſplit his ſhip on iſlands, or be wrecked on coaſts, rocks or ſands. Yet I have known many ſhips loſt through inattention to this important guide, which, if they had been ſufficiently attentive to, it would have warned them of their danger, by which they might have ſaved their ſhips. This is an unpardonable inattention.

I know it has been a prevailing cuſtom amongſt ſeamen in general, to pay little regard to the variation, and if they can find the variation to a quarter of a point, they think it near enough, and trouble their heads no more about it; but they are much miſtaken, for the variation cannot be too minutely obſerved; for how can any man work his day's work ſea without knowing exactly, what,

or how much the variation is, that he may allow it in his work. Yet there are great numbers of ſeamen, and even Commanders of ſhips, who have the charge and care of navigating them, who have but little knowledge of the variation, and hardly know how to allow for it, the more the pity! that the care and charge of a ſhip and men's lives ſhould be committed to the care of ſo ignorant a man.

I have been informed by perſons of undoubted veracity, that they have known thoſe who have been intruſted with the command of ſhips of great conſequence, who have ſteered the courſe up Channel by the draught of the Channel, without allowing the variation, and inſiſted upon it that the variation was allowed in the draught, whereby they have run into great danger, and narrowly eſcaped being loſt; This is a thing which very much ſurpriſed me to hear, that any man who had been intruſted with the care or command of a ſhip, or had any thing to do with the navigating thereof, could be ſo ignorant and void of reaſon. I hope there are no more ſuch ignorant Britiſh Navigators, but leſt there ſhould, I beg leave to acquaint them, that the Channel Draughts are made without allowing for the variation, it being left to the navigator to allow the variation, as he ſhould from time to time find it increaſe or decreaſe, the Channel Draughts being made as if there was no variation; for inſtance, by the draught of the Channel, the coaſt lies, or the courſe from the Lizard to the Start to the Iſle of Wight and to Beachy Head is, EbN and WbS, therefore to allow the variation, which is at leaſt 23 weſt at this preſent time, which is full two points, ſhews a ſhip bound up Channel muſt ſteer EbS to make an EbN courſe, which is the along ſhore courſe up Channel, and WbN in going down the Channel. I hope this hint is ſo plain, that none can miſtake it, and that it will prevent any more blunders of the kind, which may be attended with dangerous conſequences, though I ſhould never have imagined a hint of this kind any ways neceſſary, had I not been told that there are people capable of making ſuch miſtakes.

This Commander was one of the too many unſkilful Navigators, whom neither long life, experience, or maturity of age, could furniſh him with a proper knowledge of his profeſſion, which was extraordinary, but ſuch men there are in all profeſſions; all Divines are not alike, Doctors and Lawyers are not alike in their capacity, one man excels another, almoſt as much as men do brutes. This compariſon will hold good with Seamen, many of whom I have known, who have been bleſt with long life, and have been long in the ſervice, yet they have not acquired that profeſſional knowledge that might have been expected of them,

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owing to their ſlackneſs of mind and inattention, others whom I have known, at a very early period of life, have ſhewn a ſprightly genius and knowledge of their profeſſion, far exceeding thoſe that were old enough to be their fathers. Thoſe are the ſort of men that ſhould be taken notice of, and encouraged according to their riſing genius and true merit, though young men. Let it not be underſtood from this, that I mean young men of genius ſhould have the preference of old men of genius, I mean quite the reverſe, let merit and genius be rewarded wherever it is found, giving preference to the man of years, if he be a man of merit and experience, for to him perhaps the young man may be obliged for his good example and wiſe precepts, as the foundation of his knowledge, and it would be well that the young men who are breeding up in the ſeafaring way, would take their leſſons of inſtructions from the ſenſible and experienced men in the ſea ſervice.

I would wiſh to enforce the idea into every youth of the riſing generation, that are one day to ſupply the place of an old man, perhaps a good old man, and an experienced Officer, for as generation ſucceed generation, ſo muſt men ſucceed men. This idea, I ſhould think would inſpire young men, and ſpur them on to be men of genius in their profeſſion, whatever it may be. If the youth is in the Sea Line, let me beg leave to tell him, there is no way of life he can more effectually ſerve his Country than in that Line; if in the Merchants Service, by being an experienced Seaman and a good Navigator he is to ſupply the place of ſome good man who was before him, he will then commence an oſtenſible man by his honeſty, care and abilities; as a Seaman and a Navigator, he will have it in his power to render great ſervice to his country, by carrying on its trade and commerce with ſafety, proſperity, and advantage to the Nation at large, and with credit and reputation to himſelf; if the youth is in the Navy, on which the ſafety and honour of this Kingdom ſo much depends, he ſhould be, if poſſible, more diligent in ſtudying his duty in the line of his profeſſion, ſo as to be a perfect proficient in every part of his profeſſional knowledge, that when he comes to ſucceed men of riper years, and men of knowledge and experience, which long ſervice has furniſhed them with, I ſhould hope that the young man would be careful to make himſelf properly qualified to ſucceed the venerable Officer, inſomuch that the Nation ſhould not ſuffer by the young man ſucceeding the old one. I muſt here beg leave to obſerve, that the young man I am ſpeaking of, ſhould know that he has much to expect, he has much to get and much to loſe; he has more

than his own reputation, credit and honour to preſerve or loſe; he has the honour of the Nation to preſerve, which ſhould be dearer to him than his own. In the courſe of ſervice, the ſtation he may be in may bring him to the Command, not only of a ſingle ſhip, but to the command of a Squadron of Men of War; and in the time of War; when he may meet with a Fleet of the Enemies Ships, commanded by a great Officer, whoſe fame is ſpread abroad; he is ſaid to be an extraordinary good Seaman, an accompliſhed Navigator, a great and Gallant Officer who is to be the opponent of the young man I have been ſpeaking of; the two fleets are approaching each other; I will for a moment ſuppoſe myſelf ſome inviſible being at his elbow, who knows his heart and feelings of his mind at this time, and if there were occaſion, I will ſuppoſe I had the power to inſtil the principles of virtue and honour into him, but find him arguing in his own mind, and ſaying, I have here got the Enemy in view, whoſe fleet is commanded by a great and able Officer, a man of great experience, and renown for his valour and great prudence; I muſt act with great caution and circumſpection, that I may not by any manœuvre of mine give him an advantage over me, which may prove very diſadvantageous to my ſhips, and the Squadron that I command; Let me examine myſelf, and ſee if I am equal in abilities to my opponent, whoſe character I know is great; he is ſaid to be an experienced good Seaman; ſo am I; this is one of the accompliſhments I value myſelf much upon; he is ſaid to be an accompliſhed Navigator; ſo am I; this is another accompliſhment that I value myſelf upon. He is ſaid to be a great Officer; I ſhall not ſay I am a great Officer, but I can ſay I am an Officer that knows my duty, having made the ſervice my ſtudy from my youth upwards; mine opponent bears the character of being a man of great valour; I know myſelf enough, to know that I am not deficient in that highly neceſſary and great ingredient to make a man a great Officer. I hope I ſhall not be found to have leſs of that virtuous quality than is found in the breaſt of every good and Britiſh Seaman, who have been famous for their renown and heroic actions, as it is mentioned in the Annals of our Country; I conſcientiouſly have examined myſelf, and think I am not deficient of any part of my duty; I hope I have a due ſenſe of mine own honour, but I have a higher ſenſe of the honour and intereſt of my Country, which is dearer to me than life itſelf; I hope my conduct will be ſuch, that I may not outlive mine honour, but above all, may my conduct be ſuch, that I may never bring my King or my Country into diſre-

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pute, or in any ways be the cauſe of diminiſhing or tarniſhing the luſtre or honour of either; that I may ſupport the character of a Britiſh Seaman and an Officer, is the very height and wiſh of my ambition.

I have ſaid ſo much upon this ſubject, with an hope and intention that it will raiſe the mind of the youth of the riſing generation, who are training up in the ſea ſervice at this time, whom I have had all along in my eye, and whom I hope will in ſome meaſure receive benefit from the following pages, as it differs greatly from any thing ever yet publiſhed on the Art of Navigation or Seamanſhip, and will ſave young men from enquiring or aſking queſtions for their own information, who are often anſwered unpleaſantly. This will ſave them the trouble of enquiry, and will furniſh them with abundance more than they could think of to aſk in the practical part of ſeamanſhip.

I muſt beg leave to obſerve, that there is a ſort of doctrine which I hope will never gain credit in the ſervice, and which cannot be too much diſcountenanced or reprobated, which is, that it is poſſible to be a good Officer without being a good Seaman, which I poſitively deny, it being a flat contradiction of reaſon and common ſenſe; I believe it to be generally favoured by thoſe Officers who came too late into the ſervice to be initiated into a ſeaman's duty; wiſhing at once to become Officers, they were perhaps placed to command, inſtead of being placed in the tops, or other parts of the ſhip to be taught a ſailor's duty. To ſay that it is poſſible for a man to be a good Officer without being a Seaman, is an aſſertion that no man who calls himſelf an Officer can maintain, and which every ſeaman will call abſurd. It may with equal truth be ſaid, that an Officer may at once be a good Farmer, when to his coſt he would ſoon find, that being ignorant in the myſtery and labour of huſbandry, he would be deceived by every perſon he employed, as that Officer will moſt aſſuredly be, and with a riſque to his reputation, who has not a knowledge of a ſeaman, and who is obliged to truſt to his Boatſwain, ſhould his ſhip be diſabled either in bad weather or in Battle. It is well known, that when there has been an exertion from the Captain or Commanding Officer's own knowledge, as a Seaman, with what advantage the Service has been carried on, greatly to the good of it; lower maſts have been got in and rigged, top-maſts have been got up after being carried away, in the fourth part of the time that the ſame duty has been performed when entruſted to Officers, whoſe abilities, whether good or bad, and the Captain has been a judge of the duty. There is a confidence alſo which the men have in their Commander;

mander; when they find he is a Seaman, the duty is carried on with a good will and a ſteady chearfulneſs, becauſe they know that he is a competent judge of all that can be expected in the performance of their duty. So much for the Seaman and the Officer.

But how often has it happened, that a whole ſet of top-men have been flogged, becauſe the top-gallant yards have not been got acroſs ſo ſoon as other ſhips, though there has been the utmoſt alacrity ſhewn by thoſe people; and perhaps from their over eagerneſs the miſtake happened; but the Captain, being a *lubber* himſelf, and having never rigged a yard arm, calls his zealous ſailors lubbers (who have as much pride for the ſhip he commands as himſelf) and flogs them at a venture, for not doing what he is not a judge of, and which often does not depend upon their beſt exertions. So much for the man who is neither the Seaman nor the Officer. This is what cauſes real diſcontent in the ſeamen.

I therefore ſhall beg leave to draw a concluſion from what has been ſaid, and leave it to thoſe who are judges to decide upon it, and ſure I am, that ſeamen like to be commandeded by Officers who are ſeamen, and greatly diſlike and deteſt the idea of being commanded by Officers who are not: the former may lead them to any length that men can go, or the love and eſteem for their Officer can carry them, whilſt the latter will neither carry nor lead them to perform any noble action that may tend to the good of the Service, but will ever be diſcontented and unhappy whilſt they are under ſuch an Officer's command. This ſhews the good or ill conſequences of an Officer's being a Seaman or not, with reſpect to the good of the Service.

I muſt here beg leave to mention an inſtance of ſeamen's reſpect, love and gratitude to their Commander (who was a brave man). They were going into action with the enemy, who was very ſuperior in point of force. In making his ſpeech to the ſhip's company, he recommended proper conduct and good behaviour to them, and the more ſo, as the enemy were of ſuperior force, and ſaid he hoped they would behave with that bravery and reſolution peculiar to Britiſh Seamen; to which the honeſt ſeamen anſwered, Sir, We will ſtand by you while there is a timber-head of the ſhip above water. What a glorious ſaying was this to a brave Commander! and from this concluſion, what a picture a rational mind may draw! and which I think ſhould induce every man to be thought a Seamen, and that he ſhould be convinced in his own mind that he is ſo.

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I ſhall here beg leave to ſay ſomething reſpecting the Lunar Obſervations, as they are become in great practice amongſt Mariners, and as they are come to a great proficiency in that part of ſcience, in ſo much, that it is ſaid they will with a degree of certainty find the Longitude at ſea to half a degree. This is a moſt comfortable circumſtance to Navigators in general, and a great improvement in navigation, if properly attended to, and can be relied on, as they ſay it may be: If ſo, it is undoubtedly a thing of the firſt conſequence in the great art of navigation, and ſhould have every encouragement given it, as a thing of the greateſt moment to all ſeafaring men. I will ſuppoſe all that has been ſaid on this head to be litterally true, yet I would not have mariners forſake their old way of keeping their reckoning, and the method of working their day's work at ſea. The Lunar Obſervations I think ſhould make them more attentive, exact, and circumſpect in keeping their reckoning, and working their day's work, ſo that when they have a Lunar Obſervation, the nearer the dead reckoning comes to it, the more ſatisfactory it muſt be to the Navigator, bnt if the difference between the Lunar Obſervations and the dead reckoning is great, it is likely to cauſe a doubt in the mind of the Mariner which of the two to abide by, for this very reaſon I have been very particular in the following pages, in giving a very full and natural deſcription of a day's work at ſea, and the manner of working it, and the right and true manner of working a day's work, when the dead reckoning and obſervation does not agree, and how to correct the dead reckoning when a ſhip has been ſeveral days without an obſervation, with exactneſs and certainty, by which method I have for forty-five years kept the moſt exact reckonings that can be produced, and always made the land to the greateſt nicety and exactneſs, of which I ſhall ſhew great numbers of examples in the Work itſelf, by which I mean to ſhew it is poſſible to keep a ſhip's reckoning with great exactneſs, if ſeamen have judgment, and will be careful and attentive.

What has induced me to ſay ſo much upon Lunar Obſervations and the keeping of a ſhip's reckoning is, that I think it poſſible for a man to deceive himſelf, for while he is engroſſing all his attention to one thing, he totally neglects the other, in ſo much that he may bewilder himſelf, ſo that he may be liable to commit the groſſeſt errors. An inſtance we have had not many years ſince, when a Navigator, reckoned to be of great and long experience in Lunar Obſervations, was coming from abroad and bound up Channel, he committed a blunder that the ignorant navigator could not have committed a greater; he got on the wrong

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ſide of the poſt, that is to ſay, he got into Mount's Bay in hazy weather, without knowing where he was, and it is not to this day known, whether he went to the northward, or to the ſouthward, or to the eaſtward, or weſtward of Scilly; how the ſhip got into Mount's Bay is a myſtery yet unravelled, but it muſt be acknowledged he was very fortunate, to eſcape the imminent danger the ſhip muſt have been in; no leſs than a miracle. It is things like this that navigators ſhould obſerve and pay attention to, as it is better to improve by other men's miſcarriages than our own. The idea of keeping the Longitude, or being governed by the Lunar Obſervations after you ſtrike ſoundings, is a miſtaken idea; your prineipal director and guide is the Latitude and depth of water, which I have given in the following Work; according to the depth of water, the exact diſtance to the weſtward of Scilly, or the Lizard, providing you are ſure of your Latitude, is the firſt principal thing to be conſidered; and the ſecond principal thing is the depth of water, &c.

One obſervation more I muſt beg leave to make. Lunar Obſervations can only be made at particular times, when the weather is favourable to make ſuch obſervations; the weather muſt be fair, clear and a good horizon, which does not frequently happen in the Chops of the Channel, but the reverſe, generally cloudy, hazy weather, very improper for ſuch obſervations, therefore they muſt wholly depend on their dead reckoning; which leads me again to ſay, it is the only thing they have to depend upon, they therefore ſhould endeavour to keep it in the moſt exact manner they poſſibly can, being very circumſpect in their courſes and diſtance, and to be careful to keep the proper parallel of latitude, and particularly to obſerve their ſoundings, and to mind how they ſhoal the water as they approach the Channel, &c, &c. More particular mention made of this in its proper place; wherein I have mentioned many inſtances of the great loſs of ſhips at different places, and different periods of time, merely through ignorance, want of care and proper attention, which reflects great diſcredit on thoſe navigators who were the cauſe of ſuch National loſſes, through their want of profeſſional knowledge as ſeamen and navigators. I muſt beg leave to ſay, however uſeful Lunar Obſervations may be in the wide Ocean, they are not ſo in narrow ſeas, like the Engliſh Channel.

I cannot in this place forbear taking notice of a practice, ſo inconſiſtent and abſurd, that one would really wonder how it ſhould have become ſo common in uſe, eſpecially by thoſe whom, from their long experience, one might naturally

expect

expect to have known better, were there not too many examples thereof; and that is, navigators keeping their ſhips, when in the wide ocean, ſo cloſe to the wind, with their ſails as ſharp trimmed as they can make them, whereby they will not go above three or four knots, whereas, by keeping the ſhip a point further from the wind, ſhe would make leſs leeway, and almoſt double her diſtance. I would particularly recommend this method in paſſing the ſouth eaſt trade outward bound to India, and in the north eaſt trade homeward bound from India, in order to get the ſooner into the weſterly wind's way, which they will meet about 30 degrees of latitude on either ſide of the line. I am perſuaded that this method of acting would ſhorten the India voyages very conſiderably, and muſt therefore be approved of by every ſeaman of judgment.

As I have already ſaid much about the Engliſh Channel, which was the intention of my publiſhing this book. I know there are many Seamen and Commanders of ſhips, though very converſant and well ſkilled in their profeſſional knowledge, but from their trading far abroad, and making long voyages, prevents their acquiring ſo perfect a knowledge of the Channel as thoſe that go more frequently up and down it: it is to thoſe, and ſuch ſeamen that are employed on long voyages, as well as others, that I hope will be inſtructed and will reap advantage from my deſcription of the Channel, which is very different from any thing of this kind ever before publiſhed, as it gives the true ſoundings, with the exact diſtance from the land, with the courſe and diſtance from one head-land to another, with the exact diſtance between them, by which you may know how you approach near the head-lands, and by the ſoundings you are told what diſtance you are from it, with particular, plain, clear and conciſe directions for ſailing up and down the Channel; and, if turning up or down the Channel, you have particular directions, and what depth of water you may ſtand into towards the coaſt of England, or according to the part of the coaſt you are off; and alſo what depth of water you may ſtand off ſhore too, when ſtanding towards the coaſt of France, &c. with proper directions for going into Roads, and ſome of the principal Harbours, which the Work itſelf will ſhew.

I cannot ſay any thing more about the Channel, without entering into particulars, which would ſwell my work beyond the limits I at firſt propoſed to myſelf, though I muſt ſay, I know nothing more wanting than proper directions for the Engliſh Channel, and for ſailing in and out of the harbours, &c. which might be the ſaving of many ſhips; for the Channel is moſt certainly a dangerous

navigation in the Winter time, when you have frequent hard ſtorms, ſhort days, and very long nights, the weather frequently foggy, or very hazy for ſeveral days together, ſo that you cannot ſee the land; it is then the ingenious Navigator's art, ſkill and experience are put to the trial; it is then he wants to know by his ſoundings whereabout he is, how far he has got up or down the Channel, which ſide of it he is upon, how far off the ſhore he is by his ſoundings; how the tides ſet, and the time of their flowing, that he may take all advantage of them, by ſtanding on that tack, whereby he can take the tide under the lee bow, his only aſſiſtance to help him off the lee ſhore, &c. and when the weather clears up, that he can ſee the land, with perhaps, a harbour juſt under his lee, and night coming on, it is then he ſtands in need of a particular deſcription of that harbour, with proper directions for ſailing into it, which are much wanted; but ſo little encouragement is given to undertakings of this kind, that there are little hopes of ſeing it done, though nothing would more conduce to public advantage and utility.

I have juſt mentioned a ſhip in the Channel in the Winter time, in thick, hazy or foggy weather, or night time and bad weather; it blows a ſtorm, the ſhip is put under her low ſails, perhaps obliged to lie too, which ever of thoſe caſes may happen to be, the ſhip cannot ſtand long upon one tack, nor has ſhe room to drive long with her head the ſame way, in theſe narrow ſeas; this is the time the ſeaman is put to the trial, it is night time, or it is foggy or very hazy weather, that you cannot ſee the ſhip's length, which is as bad as if it were night time; under thoſe circumſtances the Mariner's art, ſkill and experience are put to the trial, he is loaded with care and anxiety, but this is the time to ſhew himſelf a man of experience and true knowledge of his profeſſion, as a Seaman and an Officer, to conduct and govern a ſhip or ſhips in ſuch times as thoſe; It is not *hats and periwigs, powdered hair or ſilk ſtockings, fribbles or beaux*, that are equal to the taſk required to be performed at this time, it muſt be men with heads and brains, the Seaman and the Officer, whoſe well grounded experience, accompanied with a firm reſolution, with a conſtancy of mind peculiar to a brave Seaman and a good Officer, that muſt ſupport the man at all times, but more particularly ſo at ſuch times as I have juſt mentioned. But I muſt beg leave to ſay, in my opinion we have loſt a great deal of our ſeamanſhip in the laſt twenty years, and if it ſhould happen that we ſhould loſe as much in the next twenty years, we ſhall become deſpicable ſeamen indeed; which I pray God forbid.

So

So high wound up is my opinion of the Seamen of this Country, that the man who has properly acquired the character of being a good Seaman, a good Officer, and an honeſt Man, is as good, and I may ſay as great a character as any in this Country, and may be claſſed with the firſt characters in the Kingdom; and were I to take the whole of the ſeafaring men in the ſcale of my compariſon, I think they would far outweigh any other claſs of men in this country, with reſpect to their uſe and conſequence, both in the King's and Merchant's ſervice, and it will, I think, be readily owned, they are the principal ſupport and defence of this Kingdom in time of War. I think I know them ſo well, that I hope I may ſay, they never will have any hand in loſing their country; but if it is ever to be ſaved by the exertion of the people, it muſt be by the ſeamen of this country; all this conſidered in the eye of reaſon, let others who are not ſo good friends to thoſe ſet of men as might be wiſhed, let them ſay what they will, I ſhall beg leave to ſay, I have often wondered that more attention has not been paid to them, while much attention has been ſhewn to other claſſes of men, much leſs worthy of the notice of the public.

I ſay, it muſt be acknowledged by thoſe converſant in Maritime affairs, that the Nation ſuffered much, and ſmarted very ſeverely laſt War, through the want of experience and profeſſional abilities of our Officers and Seamen, by their being preferred when too young. A Seaman ſhould be underſtood to be quite different from all other claſſes of men, he does not ſpring up like a *Muſhroom*, it requires many years to make him a ſeaman, it is ſervice at ſea, and long experience, that muſt qualify him for a ſeaman, with fatigue both of body and mind, and muſt ſuffer many hardſhips in acquiring the profeſſional knowledge requiſite to make him a good ſeaman, which is often forgot to be added to the merit of a ſeaman, who ſeems to ſtand friendleſs in a country, where the community at large ſhould befriend him. This idea alone, if there was no other, ſhould draw the attention of the public in favour of the ſeaman, but there are many more things might be ſaid in favour of him, which for good reaſons I muſt beg leave to decline, and ſhall only draw a compariſon between a Seaman and a Soldier.

As I have already ſaid, it muſt require ſeveral years in actual ſervice at ſea, to make a man a ſeaman, by which I mean to prove, how ſlow the increaſe of ſeamen muſt be, when it is conſidered the great numbers that die in the ſervice in long voyages, and alſo in home ſervice; This duly conſidered, will leave the

increaſe of ſeamen but a very ſmall number, which is worthy the attention of the public, when it is conſidered the great number of thoſe valuable men that are wanted when the fleet is to be manned.

As to a Soldier, any able bodied landſman will make a ſoldier, a plowman, taken from the plough to day, in two or three months may be made a good ſoldier; and ſo in proportion to any number of men that may be wanted for the Land Service, which ſhews how much eaſier and ſooner the Army can be increaſed than the Navy, which, in my opinion is by far of the greateſt conſequence to the Nation, and highly deſerves the attention of it. But I beg pardon for this digreſſion.

I have already ſaid, my firſt intention for publiſhing this Book, was to give full and proper directions for a large ſhip's ſailing up or down the Engliſh Channel, both in fair and foul weather, and have endeavoured to prove that the latitude and ſoundings are the navigator's chief and only true guide in coming into the Channel, and the ſoundings after you are in the Channel, the principal guide, and to keep the Log going the ſame as at ſea, and to heave the lead often when it can be done, particularly in night time, and hazy weather, which is what I have always done, it is your ſafe and ſure guide: you have alſo in this Book a diſplay of ſeamanſhip in all kinds of weather, at ſea and at anchor, according to the various circumſtances attending a ſhip in every ſituation ſhe can be in at ſea, or at anchor, with directions to the ſeaman how he may govern himſelf in any ſituation or difficulty he may be in, with the proper method of working and correcting a day's work at ſea, with a very particular account of the allowance to be made, and every thing conſidered, and proper directions for the ſame, with many other uſeful inſtructions and directions, which would be too tedious to enumerate in this place. And alſo a circumſtatial account of two Men of War of the third rate, the Author ſailed in, who loſt their rudders at ſea by ſtreſs of weather, with a particular account how they managed the ſaid ſhips, after that unfortunate accident, who were in great diſtreſs, but notwithſtanding the great difficulties they were expoſed to, they navigated the ſaid ſhips the diſtance of 1000 leagues at ſea, acroſs the Ocean, and brought them ſafe into port, greatly to their credit and reputation. In the narrative of thoſe ſhips after they had loſt their rudders, there are many uſeful things to be obſerved in the means that neceſſity obliged them to, which may be improving to ſeamen in general, eſpecially, if they ſhould ever in the

the courſe of their ſervice meet with any thing ſimilar to the diſtreſſed ſituation thoſe ſhips experienced, they will meet with ſtrokes of ſeamanſhip that could not be known to any but thoſe that were in the unfortunate ſituation that thoſe ſhips were in at that time.

I have alſo given in the following pages, a Treatiſe on the Winds in general, in both the Northern and Southern Hemiſpheres, and a particular account of the general Trade Winds, which is moſt conſtant for motion, and of greateſt extent, and why the Eaſterly Winds are made perpetual, and the cauſe thereof accounted for, and why Calms upon the Line, a reaſon given for it, with a particular account of the ſhifting line of the winds, from eaſt to weſt, with the cauſe thereof, with many other neceſſary and uſeful remarks and obſervations upon Winds in general, which is very proper for navigators to be acquainted with, for their guidance in long voyages, to remote parts of the Globe, to know where they are to meet with winds that will prove favourable for them to make their voyage with greater expedition; a thing very eſſential for them to know.

I have alſo given ſome remarks and obſervations on the winds that are the moſt prevailing in the Engliſh Channel, in the Bay of Biſcay, on the coaſt of Ireland, on the coaſt of Portugal to Liſbon; and to the entrance of the Mediterranean, and to the iſland of Madeira, and in the Weſtern Ocean at all times of the year. In the following pages, I have with great pleaſure given the ingenious navigator a great part of my Practical Knowledge, which I have acquired in a long ſervice at ſea for 59 years, and I hope it may be of ſervice to navigators in general, and ſhould they think ſo, I ſhall think myſelf well recompenced for all my trouble, if they are benefited by it. I hold the Art of Navigation in high eſteem, and wiſh all imaginable ſucceſs to navigators in general, and hope every one will contribute ſomething towards the improvement of this noble art, by their accurate obſervations, wiſe and judicious remarks, &c. and is it not reaſonable that the theory of navigation ſhould owe its improvement to that Nation, whoſe Sea Officers are allowed to excel all others in the practical part thereof. I therefore hope every one will contribute ſomething towards this good end and purpoſe, when it will anſwer ſo good an end to their Country and Poſterity, and will reflect much honour on themſelves.

It may be ſaid by ſome men, that they ſhould have expected that I would have dedicated this Work to a man in high ſtation and abilities in the Sea Line of Life,

which

which is uſually done by Authors who wiſh to put themſelves under the *protection of the great.* This method I might have purſued, as I have the honour to be perſonally known to men in high rank and ſtations in life, who I have reaſon to believe would have countenanced me in this undertaking; but my reaſon for not doing ſo is, that there is ſomething in a Dedication, that borders, or looks ſo much like Flattery, which is a thing I deteſt, and the great men whom I could have wiſhed to dedicate this Work to, their merit and abilities are ſo well known, and their great characters ſo well eſtabliſhed by the honours they have acquired from their great ſervices, that they do not ſtand in need of any praiſe, that my poor pen could give them. This is my reaſon for not dedicating this Work to any particular perſon, and as I have never been accuſed of the *deteſtable Vice of Flattery*, I hope I ſhall ſtand excuſed of it now; and truſt the candid Reader will not think the worſe of the Work for its not being dedicated to a great man, but ſhall leave it to the Reader to judge for himſelf, according to the dictates of his own heart, and his own good ſenſe and honeſty, by which the Author wiſhes to ſtand or fall: if the former, it will make him happy, if the latter, he with Chriſtian patience ſubmits to his fate.

INTRODUCTION.

INTRODUCTION.

A TREATISE *of the* WINDS *in general, in all Parts of the Globe, in both the Northern and Southern Hemiſpheres.*

I Think I cannot introduce my Remarks and Obſervations to the ingenious Navigator better, than by giving ſome account of the nature of Winds and Currents in general, and therefore ſhall immediately begin with an account of

The Motion of the Winds, as depending on the Courſe of the Sun.

Since the heat of the ſun both raiſeth and ſupporteth the air, in as much as it is the ſubject matter of the Wind, and ſolely diſpoſeth it to deſcend again, merely by the compoſition of his lighter rays with the heavier air, puffing it up ſperically, and letting it ſink alternately by condenſation, when they are withdrawn, as it were to fill up the vacuity left behind them; and, in regard the ſun at once both enlightens and warms one hemiſphere of the Globe, and turns around it in twenty-four hours, it muſt draw the wind after it by the ſame means and the ſame way in all places ſucceſſively, from Pole to Pole, in compliance with its weſterly motion; but not at the ſame rate, running a thouſand miles an hour upon the Equator with reſpect to the Earth's ſuperficies, which at the Poles are ſhut up in a point; from whence increaſing his ſpeed pariform to the different lengths of the intermediate parallels, and the ſwifter his courſe grows moving the air ſtill more and more effectually, the Wind adhering to his diurnal courſe, upon its advance to about 30 degrees of either latitude, blows to the weſtward perpetually, eſpecially at ſea, where no land-impediments fall in its way, either to obſtruct or divert it.

Eaſterly Trade-winds perpetual.

And although, purſuant to his diurnal courſe from eaſt to weſt, which is ſo ſwift and direct between the Tropics, the Wind moves conſtantly towards the ſame quarter; yet ſtill, with due regard to his annual declination,

nation, it deflects more northerly or ſoutherly, according to the different ſeaſons of the year, without a dependance on any other cauſe, in as much as its blaſts ſoar aloft in the air, where its flux is moſt uniform and eaſily inclined to follow thoſe ſolar impreſſions; but, in regard its natural tendency inclines it towards the center of the Earth, and it falls at laſt upon the ſurface either of ſea or land, it muſt in ſome meaſure be regulated by the conduct of their ſituations, eſpecially at land, where its ſurface is rough to hinder its ſpeed, or oblique to deflect its courſe.

Again, notwithſtanding the water's ſuperficies be ſmooth for the Wind to glide eaſily over it, and of its own nature preponderates the incumbent air, which is much lighter, and conſequently apt to float upon it, without ruffling its plain into any diſorder, yet in regard they are both liquid bodies to cleave cloſe together, and are withal effectually applied to each other by the ſuperincumbent atmoſphere, the ſuperjected Wind and the ſubſtrate Sea, muſt mutually ſtir up each other's motions, the former by its weight, and the latter by its volubility, where it has room to roll, and by conſequence the flux of the ſea muſt ſhare with the rays of the ſun, in their ſway over the Wind between the Tropics, and very effectually too, when the ſpace of their coheſion is of large extent, and their joint motion is conſtant and perpetual.

Weſterly Winds on the Equator.

Hence it is effected, that the ſame Wind which was firſt carried weſterly by the diurnal courſe of the Sun, now, ſecondly, declined by his annual motion more north and ſouth, thirdly, is often deflected more obliquely by the inclination of the ſhores, and fourthly, is returned back again periodically from near the oppoſite points by the Sea's ſituation, which is finally, by the concurrence of its flux underneath, carried perpetually quite contrary to the diurnal courſe of the Sun, which firſt ſet it on foot, even upon the Equator itſelf, for five hundred leagues together.

Now the flux of the Ocean, ſharing with the motion of the Sun, in his conduct of Sea-winds in general within the Tropics, and both being alike concerned in the management of the Trade-wind in particular, it falls very opportunely to ſhew what reſpect that Wind bears to their joint direction in ſeveral ſeas, at what ſeaſons and on all occaſions. Here I ſhall endeavour to demonſtrate how much the Trade-wind is beholden

to

to the motion of the Sea, and there in what reſpect the ſea's motion depends on the Wind, producing all along ſome inſtances for that purpoſe in their proper places.

The motion of the Trade-Wind, and its dependance on the courſe of the Sun.

In the torrid climate of the World, where the Sun's motion is ſwifteſt, and his rays perpendicular and more compact, and the ſun-burnt Earth neither overloads them with moiſture, nor any inequality of the Sea makes reſiſtance to their operation, his conduct of the Wind muſt be conſtant and univerſal, tending diurnally into the weſt, and annually towards the north and ſouth, and its motion muſt be purſuant thereto, as long as the obviating coaſts and ſhores will permit the air to move the ſame way, without any deflection or impediment of ſome other kind.

Eaſterly Winds perpetual.

To begin with the general Trade-wind, which is moſt conſtant for motion and of greateſt extent. Dr. Edmund Halley demonſtrates, that it neceſſarily depends on the diurnal courſe of the Sun in regard, the air, which is leſs rarefied by his heat, and conſequently more ponderous, muſt have motion towards thoſe parts which are more rarefied and leſs ponderous, to bring it to an equilibrium. Again, the preſence of the Sun continually ſhifting to the weſtward, that part to which the air tends, by reaſon of the rarefaction made by his greateſt meridian heat, is, with him, carried weſtward, and conſequently the tendency of the whole body of the lower air is that way. Hence is formed a general eaſterly Wind, which being impreſſed upon all the air of a vaſt Ocean, the parts impel one the other, and ſo keep moving till the next return of the Sun, whereby ſo much of the motion as was loſt is again reſtored, and thus the eaſterly Wind is made perpetual.

Why the Winds to the northward or ſouthward of the Eaſt.

From the ſame principles, Dr. Halley tells us, it follows, that this eaſterly Wind ſhould, on the north ſide of the Equator, be to the northward of the eaſt, and in the ſouth latitude to the ſouthward thereof, while the Sun is upon or near the Line, the air being there more rarefied, and his motion ſwifter than at any diſtance from it; which motions, by his account, being ſuperadded to the former eaſterly Wind, anſwer all the phenomena of the general Trade-wind.

Trade-winds more eaſterly and freſher by the preſence of the Sun.

Such is the eaſterly tendency of the general Trade-winds, as alſo its north and ſouth eaſterly inclination, on each ſide towards the Line, while the Sun's diurnal motion keeps near the Equator, as Dr. Halley has already demonſtrated, and when the Sun is in the northern hemiſphere and near his greateſt declination, then are the Winds to the northward of the Line more eaſterly, and freſher gales, occaſioned by the Sun's preſence there, and his quick diurnal motion to the weſtward, the air being there more rarefied, and his motion ſwifter, than at any diſtance from him, and wherever the Sun is vertical, it generally produces ſqualls and rain, more or leſs, according to the ſituation of the place. Again,

The Trade-winds drawn by the Sun on both ſides the Equator.

when the ſun is in the northern hemiſphere, then are the Winds to the ſouthward of the Line more ſoutherly, from the Sun's influence over them, drawing the ſouth eaſt Trade-wind even acroſs the Line into north latitude. This effect has the Sun over the Winds between the Coaſt of Guinea and Weſt India Iſlands; and when the Sun is in the ſouthern hemiſphere, and near the ſouthern Tropic, then are the Winds to the ſouthward of the Equator more eaſterly, and freſher gales, by the reaſons before mentioned, by the Sun's preſence there; and the Winds to the northward of the Line are then more northerly from the Sun's influence over them, drawing the north eaſt Trade-wind even acroſs the Line, into ſouth latitude; this effect has the Sun over the Winds between the Coaſt of Brazil and the Coaſt of Angola: ſo that 12 degrees, viz. ſix on each ſide the Line, which Geographers aſſign for the ſpace of tranquility, or calms, is too great, and is removed occaſionally by the Sun's declination ſometimes to the northward and others to the ſouthward of

Calms upon the Line.

the Line; and the calms upon the Line are moſt likely to happen when the Sun is upon the Line, or within a few degrees on either ſide of it; and although Geographers commonly allow twelve degrees tranquility, ſo the Sun's tropical declination, being extended at leaſt twenty-three degrees, more than doubly ſufficeth to draw the ſaid vacuity, from one ſide the Line to the other, with a half yearly viciſſitude, as is manifeſt.

And again, the Wind adhering to the Sun's diurnal courſe, upon its advance to twenty-eight or thirty degrees of either latitude, it blows to

Eaſterly Trade-winds perpetual,

the weſtward perpetually, eſpecially at ſea, where no land impediments fall in its way either to obſtruct or divert it.

Yet

Shifting line of the Winds from eaſt to weſt.

Yet from twenty-eight to thirty degrees of either latitude, there being a ſpace of two degrees tranquillity intermediating between the ſaid north and ſouth eaſterly winds, muſt needs ſtagnate into a calm in ſo conſiderable a breadth, and this may juſtly be termed the ſhifting line of the Winds from Eaſt to Weſt; which ſaid vacuity of two degrees, may be ſaid to hinder the ſaid oppoſite fluxes of air from approaching each other. Hence it is effected, that the ſame wind which was firſt carried weſterly by the diurnal courſe of the Sun, and now ſecondly declined by his annual motion, more north and ſouth, thirdly, is often deflected more obliquely by the inclinations of the ſhores; and fourthly, is returned back again, periodically or perpetually, from near the oppoſite points, by the ſea's ſituation, which is finally, by the concurrence of its flux underneath, carried perpetually quite contrary to the diurnal courſe of the Sun, which firſt ſet it on foot.

Winds from 30 to 50° of either latitude are weſterly.

Which is, that without, or from thirty to fifty degrees of either latitude, there is either a periodical or perpetual weſterly wind blowing from ſouth-weſt to north-weſt, according to the different ſeaſons of the year, being always influenced by the Sun; viz. in the northern hemiſphere, when the Sun's preſence is there, the Winds are generally from weſt to ſouth-weſt, and when the Sun is abſent from that hemiſphere, the Winds are generally from weſt to north-weſt, accompanied with frequent ſtorms, the influence of the Sun drawing the Winds from the northern into the ſouthern hemiſphere after him. Such are the Winds in the Weſtern Ocean, between North America and Europe.

Winds in the northern hemiſphere.

Winds in the ſouthern hemiſphere.

And in the ſouthern hemiſphere, when the Sun's preſence is there, the Winds are generally from weſt to north-weſt, and when the Sun is abſent from that hemiſphere, the Winds are generally from weſt to ſouth-weſt, accompanied with ſtorms and bad weather, the influence of the Sun drawing the Winds from the ſouthern into the northern hemiſphere after him. Such are the Winds in the Ethiopic Ocean, between the Coaſt of Brazil and Cape of Good Hope, and to the Coaſt of New Holland, &c.

In the aforeſaid ſpace, from thirty to fifty degrees of either latitude, the weſterly Winds are either periodical or perpetual, according to the ſea's ſituation. But before I proceed to meddle with its ſhifting motion, as cauſed by the Sun's annual declination towards the poles, it is further

requiſite to take along with me this hiſtorical relation of matter of fact, by Dr. Halley, which I ſhall ſtrictly obſerve, and which is as follows, viz.

" In the Indian Ocean the Winds are partly general, as in the Ethiopic " Ocean partly periodical; that is, half the year they blow one way, and " the other half near upon the oppoſite points; and theſe points and times " of ſhifting are different in different parts of the Ocean. The limits of " each track of ſea ſubject to the ſame change or motion, are certainly " very hard to determine; but the diligence (ſays he) I have uſed to be " be rightly informed, and the care I have taken therein, has in a great " meaſure ſurmounted that difficulty; and I am perſuaded that the " following particulars may be relied on.

" 1ſt, That between the latitudes of ten degrees and thirty ſouth, " between Madagaſcar and New Holland, the general Trade-wind about " SEbE, or ESE, is found to blow all the year long, to all intents and " purpoſes after the ſame manner as in the ſame latitudes in the " Ethiopic Sea.

" 2dly, That the aforeſaid ſouth-eaſt Winds extend to within two " degrees of the Equator, during the months of May, June, July, &c. to " November, at which time, between the ſouth latitudes of three and ten " degrees, being near the meridian of the north end of Madagaſcar, and " between two and twelve ſouth latitude, being near Sumatra and Java, " the contrary winds from the north-weſt, or between the north and " weſt ſet in and blow ſtrong, accompanied with dark rainy weather for " half a year, viz. from the beginning of November to April: and this " monſoon is obſerved as far as the Mollucca Iſles.

" 3dly, That to the northward of two degrees ſouth latitude, over the " whole Arabian or Indian Sea, and Gulph of Bengal, from Sumatra to " the Coaſt of Africa, there is another Monſoon, blowing from October " to April, upon the north-eaſt points; but in the other half of the year, " from April to October, upon the oppoſite points of ſouth-weſt and weſt " ſouth-weſt, and that with rather more force than the other, accompanied " with dark rainy weather, whereas the north-eaſt blows clear. It is " likewiſe to be noted, that the winds are not ſo conſtant, either in " ſtrength or point in the Gulph of Bengal, as they are in the Indian Sea,

" Sea, where a certain and ſteady gale ſcarce ever fails. It is alſo " remarkable, that the ſouth-weſt Winds in thoſe ſeas are generally more " ſoutherly on the African ſide, and more weſterly on the Indian.

" 4thly, That as an Appendix to the laſt deſcribed Monſoon, there is " a track of ſea to the ſouthward of the Equator, ſubject to the ſame " changes in the Winds, viz. near the African Coaſt, between it and the " Iſland Madagaſcar, or St. Lawrence, and from thence northward as " far as the Line; wherein, from April to October, there is found a " conſtant freſh ſouth and ſouth ſouth-weſt Wind, which, as you go more " northerly, becomes ſtill more and more weſterly, ſo as to fall in with the " weſt ſouth-weſt Winds mentioned before, in thoſe months of the year, " to be certain to the northward of the Equator."

And in the other months of the year, that is, from November to April, in the before mentioned track of ſea, to the ſouthward of the Equator, and between Madagaſcar and the Continent, there are found very different and oppoſite Winds, viz. from the Equator to the north end of Madagaſcar, the north-eaſt Monſoon blows freſh and ſteady gales; between Madagaſcar and Mozambique, and as far to the ſouthward as St. Auguſtine's Bay, or the ſouthern Tropic, the Winds are from north-weſt to north and north-eaſt, with frequent ſtorms and dark rainy weather. Theſe Winds reach as far as the ſouthern Tropic, where they are met by the ſoutherly or ſouth-eaſt Winds, which blow at the ſouth end of Madagaſcar at all times of the year, and they blow very ſtrong at this ſeaſon of the year. Theſe ſoutherly or ſouth-eaſt Winds, forcing themſelves to the northward between Madagaſcar and the Continent, and meeting the ſtrong north-eaſt, north, or north-weſt Winds, repel each other with great fury, which occaſions terrible ſtorms and tempeſts. The ſouth-eaſt or ſoutherly Winds generally carry it againſt the northerly Winds, eſpecially to the ſouthward of the ſouthern Tropic, where the ſouth-eaſt, ſouth, or ſouth-weſt Winds blow all the year long.

And at this ſeaſon of the year, from October to April, the ſouth and ſouth-eaſt Winds moſtly prevail from the ſouth end of Madagaſcar all along the Coaſt of Africa, quite to the Cape of Good Hope, where the ſouth-eaſt winds blow very ſtrong and conſtant at this ſeaſon of the year;

and

and from the ſaid Cape to St. Helena, the ſouth-eaſt Winds blow a freſh and ſteady gale, and thence to the Equator, &c.

Of the ſhifting Trade-Winds, and their dependance on the Sun's Zodiacal Declination, with regard to the Equinoctial Poſition of the Arabian Sea.

So ſtrictly does the mutual concourſe of the north and ſouth-eaſterly Trade-winds obſerve the Equator while the Sun's diurnal motion keeps cloſe to that line; but when his annual declination withdraws his vertical rays, and the air grows cooler in his abſence, the joint occurſe of the ſaid Winds, as following cloſe to his greateſt meridional heat, muſt alſo decline with him into the ſame latitude, whether it be to the north or the ſouth, and thoſe Winds muſt make their half-yearly returns of Summer and Winter alternately on each ſide of the Equator.

Beſides, the ſaid ſpace of rarefied air ſtill attending the Sun's zodiacal declination ſucceſſively towards each of the Tropics, and ſtill intermediating between the ſaid north and ſouth-eaſterly Winds, muſt needs ſtagnate into a calm of ſo conſiderable a breadth on each ſide of that ſhifting line, deſcribed by the Sun's declination, as to hinder the ſaid oppoſite flux of air from approaching each other at their congreſs, that Geographers commonly aſſign it a track of ten degrees tranquillity; ſo that the ſun's tropical declination, being extended at leaſt twenty-three degrees, more than doubly ſufficeth to draw the ſaid vacuity from one ſide of the Line to the other, with an half-yearly viciſſitude, as is manifeſt.

Now the poſition of the Arabian Gulph, or that part of the Indian Sea which the ſaid ſhifting north and ſouth-eaſterly Winds chiefly affect, being equinoxial, it concurs very opportunely with the zodiacal motion of the Sun, either to remove them all alternately out of that compaſs, as not exceeding ten degrees on the ſouth of the Equator, and twelve degrees to the northward of that line, or at leaſt to abate their force in ſuch meaſure as not to be able to reſiſt the ſouth and north weſterly Monſoons, which of courſe ſucceed them from the oppoſite points every half-year, at their reſpective ſeaſons, to ſupply the vacuities left behind them.

Hence

Hence it comes to paſs, that the north and ſouth-eaſt Trade-winds never blow both at once, within the compaſs of the Gulph or Sea aforeſaid, the one being no ſooner drawn off by the Sun's declination, than the other is brought on again by its own weight, to fill up the vacuity left on the other ſide of the Equator; for ſo it happens in April, when the Sun having paſſed the Line from the northern ſigns, at once carries off the north-eaſt Trade-wind or Monſoon from it, and draws thither the ſouth-eaſt Wind after it, which, from the ſituation of the aforeſaid Sea or Gulph, turns it to ſouth and ſouth-weſt, and having repaſſed it again to the ſouthward, brings thoſe Winds back again; and ſo carries them backward and forward, the one towards the Line and the other from it, by an half-yearly viciſſitude for ever.

It is farther obſervable, that thoſe eaſterly Trade-winds, and weſterly Monſoons, which happen at the ſame time, blow jointly, either towards the north or ſouth; as, from April to October both blow to the northward, purſuant to the Sun's declination into the north ſigns, drawing them thitherward, from a more denſe and ponderous wintry ſeaſon, into a more expanded and rarefied air of ſummer; and, on the contrary, they jointly, from October to April, attend in the ſouth on his preſence upon the ſame occaſion; ſo that the weſterly Monſoons, in as much as they blow north and ſouth, are as effectually influenced by the annual courſe of the Sun, as the eaſterly Trade-winds are to blow hither or thither at the ſame ſeaſon.

Hence it comes again to paſs, that the ſaid ſouth-eaſterly Winds, as Dr. Halley obſerves, extend from the aforeſaid ten degrees ſouth latitude, near the Equator, during the months of May, June, &c. to October, while the Sun remains to the northward of the Line, to draw them thitherward; and on the contrary, that there is blowing a north-eaſt Wind for the other half-year, from November to April, the Sun being on that ſide of the Line to attract it. Now, why, or how, thoſe two eaſterly Trade-winds, ſo intermixing, ſhould each be ſupplied for its reſpective half-year, by a weſterly Monſoon from the oppoſite point, and to aſſign a cauſe able to produce ſo conſtant an effect, leaves no phenomena of the ſhifting Trade-winds unaccounted for.

How the South and North-weſtern Monſoons are reſpectively regulated by the ſituation and figure of the Arabian Sea.

Having ſhewn already (in the former of the two precedent Sections) that the ſouth-eaſterly Wind which blows perpetually from thirty to ten degrees of the ſame latitude, is drawn eight degrees nearer the Line, on the eaſt ſide of the Arabian Bay, from April to October, by the Sun's declination to the Northward; and in the latter, that the ſouth-weſt Monſoon, by virtue of his ſaid declination, blows to the northward at the ſame time, let us ſee how it acquires a weſterly turn, by the conduct of the ſaid Bay's ſituation on that ſide, and it is obſervable,

Firſt, That the African ſhores which coaſt the Ocean towards the weſt, tend eaſt northerly from the Cape of Good Hope to Cape Corrantes, and from thence it tends north-eaſterly from Cape Corrantes all along to the Equator, and beyond it to the bottom of the ſaid Bay, the land being high for the moſt part, and the Sea-winds, being a heavy meteor, muſt conſequently as ſtrictly obſerve their direction, as rivers do the banks which bound them, and the Winds muſt follow their conduct as far as they reach, eſpecially at that ſeaſon when a ponderous load of winterly air and foul weather drives them thitherward with more vehemency, as Dr. Halley takes notice, than any other Winds that trade in thoſe Seas; and it is evident from experience, that in the Winter ſeaſon, whether ſtormy or otherwiſe, the Winds generally follow the direction of the coaſt or ſhores. From the Cape of Good Hope to Cape Corrantes, it is moſtly from weſt to ſouth-weſt, and from Cape Corrantes to the Equator, it is moſtly ſouth ſouth-weſt, as the coaſt or ſhores lie, ſtrictly obſerving their direction, as before mentioned.

Beſides, the ſaid South Ocean, whoſe ſuperficies ſuſtains that ſouth-weſt Wind, all the while ſending its tide directly northward towards the ſaid Bay, being alike contracted on that ſide by the inclining ſhore, the flux of its coaſting current muſt be proportionably haſtened, and conſequently communicate to the ſuperincumbent ſouth-weſterly Monſoon, a more fixed and ſteady determination, and drives its flux as deep into the Bay as it went before.

In

In conſequence whereof it is obſerved, that a conſtant current of the ſea for all that track from Madagaſcar to the Equator, entering the ſouth-weſt corner of the Indian Ocean (where the Monſoons firſt begin to ſhift), carries the ſuperincumbent air along with it down into the Arabian Gulph; and, as Dr. Halley affirms, a conſtant freſh ſouth-weſterly Wind blowing along that Coaſt, on both ſides the Line, which, the farther you go northerly, ſtill blowing more weſterly, falls in (ſays he) with the ſouth-weſterly Monſoon, or rather gives it a beginning, by falling in with it in April, and ending with it in October; which plainly demonſtrates that they compoſe, and become as it were the ſame undiſcontinued flood of Water and Wind conjoined, without any diſtinction, while the Sun's northward declination at once encourages the ſouth-weſt Wind to blow, and withdraws that north-eaſterly Wind which otherwiſe would oppoſe it. This Monſoon blows more ſoutherly on the African Shore, and more weſterly on the Indian; and the further to the northward it ſtill blows more weſterly.

Hence it comes to paſs, that the ſouth-weſt Monſoon, as being derived from the joint current of Wind and Water aforeſaid, following the ſouth-weſterly direction of the African ſhore, which ſtill contracts and enforceth it both by land and ſea, and having paſſed the Equator, its proper limit, penetrates to the bottom of the Arabian Bay; whereas the ſouth-eaſt Trade-wind, which blows at the ſame time on the ſouth ſide of the Line, never reacheth it, for want of the like aſſiſtance from any ſhore or current to help it forward, but on the contrary, falls ſhort of its natural courſe, at leaſt two or three degrees, as being repulſed by the contrary motion of the Sea and Wind, as will appear.

Now to derive the north-weſt Monſoon regularly from the ſame ſource or current of Water, only reflexed, which brought the other Monſoon directly from the ſouth-weſt, it is to be noted, that the Bay wherein they are both propagated is of a triangular figure, the ſubtenſe of whoſe north angle, pointing directly eaſt and weſt, ſeparates the ſaid Bay on the ſouth from the wide Ocean, with a barrier compoſed of iſles and ſhallows, whereon the ſaid ſouth-weſterly current falling obliquely, and entering into the Gulph at its ſouth-eaſt angle, is reflected from near the corner thereof towards the other end of the ſaid barrier, where the

ſtream refunds it again by an eaſterly outward bound paſſage, into the Ocean whence it came, drawing the incumbent north-weſt Monſoon after it from October to April, its proper ſeaſon.

Conformable to the ſcheme of the ſouth-weſterly flux, and north-weſterly reflux of the ſaid current, Dr. Halley aſſures us, that a freſh weſterly Wind attends it down the Bay, which, the further you go northerly, ſtill blows more weſterly, till they both approach near the Eaſtern Shore, where the current, being now on its return towards the Ocean, veers about to the northward, and thence weſterly, till it falls in with the conduct of the oppoſite Eaſtern Coaſt, and follows its direction as far as the Maldivia Iſlands, which tending lineally to the ſame point, ſteers on its courſe forward ten degrees farther, till it reaches the Equator.

Now, in regard the ſaid current deſcending into the Bay, goes on diſperſing its ſtream into almoſt calm water, ſo the oppoſite Eaſtern Shore re-collects it again, and revives its motion by the like degrees, till it has paſſed the ſaid Iſlands up to the Line, where it falls in exactly with the tendence of the north-weſt Monſoon; hence it muſt needs ſtir up there a motion in the incumbent air of that tendence, the oppoſite ſouth-eaſt Trade-wind being already withdrawn by the Sun's declination, and muſt carry that Monſoon, ſo raiſed, along with it according to the ſame direction ten degrees further, being its proper limit, till it meets with the ſaid Wind to ſtop it, and the ſtream underneath having paſſed over the aforeſaid barrier of iſles and ſhoals, be refunded into the Ocean whence it came.

Thus both the weſterly Monſoons are equally beholden to the ſame current; that from the ſouthward, as being carried down the Arabian Bay towards the north-eaſt by its direct courſe; and this from the northward, as returned back again by its reflux into the ſouth-eaſt, in compliance with the ſtreams underneath, yet with this difference; that whereas the courſe of the water, meeting no oppoſite ſtream to diſpute its paſſage, is perpetual, on the contrary, the concomitant fluxes of the weſterly Monſoons, upon the occurſe of the oppoſing Trade-winds, alternately deſiſt, and become periodical; thoſe eaſterly Winds within their compaſs overpowering all oppoſition, ſo as either to reſtrain the ſaid contrary Monſoons or ſet them at liberty, while the Sun's ſouth or north declination

by

by half-yearly returns, alternately ſet on the ſaid eaſterly Winds or takes them off again.

Hence it is that the ſaid ſouth-weſt Monſoon begins to blow in April, when the Sun's entrance into the north ſigns withdraws the oppoſite north-eaſt Trade-wind, which diſcontinues till October, when the Sun, by repaſſing the Line in ſouth latitude, brings it on again; ſo alſo the north-weſt Monſoon blows the other half-year, from October till April, from the Equator to ten degrees ſouth latitude, and then deſiſts, with regard to the ſouth-eaſt Trade-wind, which riſeth to countermand it; juſt as land breezes, which, following the ſtreams of freſh rivers, are naturally perpetual, nevertheleſs they are driven back periodically by the ſalt floods, till their ebbs give them leave to return again and blow ſea-ward as they did before.

Again from October to April, notwithſtanding the north-eaſt Trade-wind has driven back the oppoſite ſouth-weſt Monſoon, from its adheſion to the direct courſe of the ſouth-weſt current which produceth it, yet its ſtream being refluxed and ſtill retaining its former force and ſpeed, muſt gradually decline the motion of the incumbent air from the eaſtward to the weſtward of the north all the while, till it has repaſſed the Line to the ſouthward, and effectually raiſed the north-weſterly Monſoon, having eſcaped out of the compaſs of the north-eaſt Wind, which would have deflected its courſe, the ſouth-eaſt Wind being alſo withdrawn by the Sun's ſoutherly declination, which otherwiſe would have oppoſed and baffled it into a calm.

Hence I conclude, that thoſe north and ſouth-eaſterly Winds, which follow the diurnal courſe of the Sun, never blow on both ſides of the Equator at once; and that that current of the ſea to which I aſcribe the contrary ſouth and north-weſterly Monſoons, ſerves only, when and where thoſe eaſterly Winds intermit, to determine the motion of the air that way, to ſupply their reſpective vacuities till their return; and that thoſe too ſhifting winds which blow at once, tend jointly either to north or ſouth, and ſtill towards the Sun, that the inequality of their Summer's levity and Winter's gravity may give force and celerity to their motions, ſo as, in ſubſtance, to be the ſame north and ſouth Winds, but only

differently determined on each ſide of the Equator, eaſterly by the Sun's diurnal tendance, and weſterly by the current aforeſaid.

How the ſaid Shifting Winds are propagated in the Bay or Gulph of Bengal and the China Seas.

Bay or Gulph of Bengal.

Now for as much as the Gulph of Bengal and Sea of China, are alike affected by the ſaid weſtern Monſoon, and at the ſame time, and all three lie colaterally to each other, and lineally to the ſame Ocean which produced the aforeſaid current, the tidal tumour thereof, to render the cauſe co-extenſive with its effect, muſt ſpread itſelf comprehenſively over them all at once, to produce ſo general and uniform a commotion in the air; and if that Monſoon be not ſo conſtant, in ſtrength or point, in the Bay of Bengal as it is in the Arabian Bay, it is becauſe the Ocean, being contracted all along the African ſhore, more immediately, and conſequently more ſharply affects it, and ſo muſt needs give the Wind a more fixed and ſteady determination there, than after it is dilated by a greater expanſion.

Beſides, the ſaid Gulph or Bay of Bengal being alike of a triangular figure, as well as the Arabian Bay, and they lying reſpectively in the ſame horizontal poſition, the tidal motion of the ſea, which jointly with the aforeſaid current, falls into them with the ſame obliquity, muſt equally affect them directly with a ſouth-weſterly Monſoon, and refluxedly with a north-eaſterly one; and both lying conjoined and open towards the ſouth, and alike ſubtended by the barrier aforeſaid, on that ſide, the north-weſt monſoon, as being jointly directed by them both, muſt reach co-extenſively along with it, from the eaſtward of the north end of Madagaſcar to Sumatra, and from the Equator to ten degrees ſouth latitude, as is found by obſervation.

But as to the Chineſe ſea, although it lies on the ſame ſide of the Line, and according to the ſame ſouth-weſt direction, with open mouth towards the Indian Ocean, to partake of the ſaid ſouth-weſt Monſoon, yet its channel more reſpecting the north and ſouth points than the Bays aforeſaid do, its flux of air, as well as water, muſt needs deflect the ſame way; but it being withal an oblong track of water, and not triangular, beſide being

being a thoroughfare paſſage out of one ſea into another, it can by no means reflect its ſtream, either of air or water, back towards the ſouth-eaſt in favour of a north-weſt Monſoon, which is neither found in this Sea, nor can be reaſonably expected in any other, of a different poſition or figure from the Bay and Gulph aforeſaid.

Now, from what I have already ſaid of this matter, it appears, Firſt, that the place ſo affected with the Monſoons, muſt lie upon or near the Equator, to ſhift them with the Sun's declination, both northward and ſouthward, according to the different ſeaſons of the year; hence all ſeas, of any other poſition, are incapable of the like alteration.

Beſides, the figure of that part of the Indian Ocean which is ſo affected muſt be triangular, with an inlet at its ſouth-weſt angle, to receive the ſtream of water which conducts the ſouth-weſt Monſoon into the Bay; and an outlet at its ſouth-eaſt corner, to ſet the north-weſt Monſoon off again by the oppoſite point, as appears by the ſpecial ſervice of every part of the ſaid Bay, and how proper it is to perform its office.

It was further requiſite, that a barrier, conſiſting of iſles and ſhoals, ſhould paſs between the ſouth-weſt and ſouth-eaſt paſſages, to ſtrengthen the aforeſaid current (which almoſt ſtagnates in the middle of the Gulph) into a ſtream, to ſtir up the incumbent air into a north-weſt Monſoon, and withal, it was to be of a proportionable breadth to continue its flux over that rampire for ſix degrees together, into the ſoutherly Ocean, to meet the ſouth-eaſt Trade-wind, which was to ſtop it before it ceaſed.

And this barrier was to be but of a mean ſtature; neither ſo high as to hinder the tide or current from paſſing over it, in as much as it might be favourable to both the ſouth and north-weſt Monſoons, by letting one enter into the Bay as freely at the weſt end of it, as the other to go off at the eaſt, nor yet ſo low as to admit its flood in ſo full a manner as to controul or obſtruct their ſhifting motion.

Moreover, the ſouth-weſtern current of Wind, which coaſteth the African ſhore, from near the Iſle of Madagaſcar to the Equator, to which Dr. Halley allows a periodical flux from April to October, yet terms it, not improperly, only an Appendix of the ſouth-weſt Monſoon, till it hath paſſed the Line, though it be the origin and ſole cauſe thereof; in regard,

till

till it has paſſed the Equator, it remains out of the Sun's power to give it cheque, and return it whence it came by his ſoutherly declination; eſpecially the concomitant ſouth-weſt current of the ſea, perpetually reſiſting its trading back again by the ſame road for the other half-year, to wit, from October to April; or at leaſt with any periodical conſtancy or certainty of motion.

Concerning thoſe Winds which are adverſe to the general Eaſterly Winds, and are perpetual.

To omit thoſe that blow all the year without any conſiderable variation, unleſs what is ſubject to be deflected there from ſome few points of the compaſs towards the north or ſouth, according to the poſition of the place, as being in all reſpects well accounted for by Dr. Halley already I ſhall only of courſe take further notice of theſe which he propoſeth for exceptions to that general rule, in order to reconcile them to the common laws of Motion.

Firſt, that to the northward of the Line, between four and ten degrees of latitude, and between the meridians of Cape Verde and the eaſtermoſt Iſlands that bear that name, Dr. Halley tells us there is a track of ſea, wherein it were improper to ſay there is any Trade-wind, or yet variable. The little Winds that are, be only ſome ſudden uncertain guſts of very little continuance, and leſs extent, which he aſſigns to the ſtation which that track holds between two contrary Winds, the one its north ſide, blowing eaſterly from the ſaid Cape towards Guiana in America, and the other on the ſouth from Brazil towards Guinea in Africa; which were more proper to turn the interjacent air into a whirlwind than to hold it ſteady, did not that part of the Ocean, where the Atlantic and Ethiopic floods meet, concur to keep it fixed, as being obnoxious neither to flux or reflux, to diſturb its quiet.

Secondly, that in the track of ſea which (on the ſouth) lies next adjoining to this, the ſoutherly and ſouth-weſt Winds are perpetual, viz. all along the Coaſt of Guinea, for above five hundred leagues together, from Sierra Leona to the Iſle of St. Thomas; for the ſouth-eaſt Trade-wind, upon its entrance into the Streights (in compliance with the ſouth-weſterly

weſterly tendence of the ſea-current along the Brazilian ſhore) becomes ſouth ſouth-eaſt, and by degrees full ſouth; and being carried down with the ſtream towards the Guinea ſhore, veers about to the ſouth ſouth-weſt, and by degrees to ſouth-weſt and weſt ſouth-weſt, under the cloſe conduct both of that ſtream and coaſt, till at laſt the current of water being repulſed by the eaſtern ſhore of Guinea, returns towards the ſouth (whence it came) to make reſtitution; and being ingulphed by the tide's detumeſcency, is carried off by libration thither, and deflects the ſuper-incumbent current of air into the ſouth after all, to complete its circulation, as will be further declared hereafter.

To theſe which Dr. Halley alledges, may be ſubjoined, as remarkable inſtances of the ſame truth.

Firſt, That all along the weſtern coaſt of Peru, for above five hundred leagues together, from near the Megellanic Streights, as far as the Gulph of Panama, an uninterrupted and almoſt perpetual flux of air attends the current of water, which ſupports it, blowing from ſouth to north, or within a point or two to the weſtward, according to the different inclination of the ſhore, notwithſtanding thoſe exhalations which compoſe it, fall down from the Andes, out of the eaſt and the weſtern Pacific Ocean, lies wide open to receive them, yet without giving even a beginning to an eaſterly Trade-wind for all that length of ſhore (till fifty leagues off at ſea) which is perceptible.

Secondly, That a perpetual flux of air or Wind adheres to the coaſting current of the African ſhore on the Ethiopic ſide, from the Cape of Good Hope to near the moſt ſoutherly part of Guinea, which is conſtantly determined to blow ſoutherly, by the draught of the ſtream underneath; and withal, the Wind keeps that flux of water on foot, by its conſtant deſcent from the adjacent ſhore, ſo as both to tend thitherward all the while, by the mutual aſſiſtance of each other; with many inſtances of the ſame kind, which will be produced more conveniently hereafter.

Such is the adheſion of the incumbent air to the ſubſtrate water, when they are got into motion, and have free liberty to follow the ſame direction, for otherwiſe each may be put to a ſtop apart, or both may be deflected ſeveral ways at once, as the ſouth-weſt Monſoon which we ſpoke of, before, whilſt the ſouth-eaſt Wind was withdrawn, paſſed along the Coaſt

of

of Africa down into the Arabian Gulph, jointly with the ſtream that conducted it, and even after the current had ſtagnated in the middle of the Bay, as ſoon as it revived its motion towards the ſouth-eaſt ſtill purſued its refluxed direction, yet no ſooner had the ſouth-eaſterly Wind put a ſtop to its carrer, and the current reflected towards the north-weſt began to revive and gather ſtrength, but the north-weſt Monſoon did ſo too, and fell in with it and attended it through the ſouth-eaſterly paſſage into the wide Ocean, where both ceaſed together.

By this means theſe ſea-faring Winds take the liberty to diſorder thoſe which trade out of the eaſt, by the influence of the Sun, in ſome ſeas ſtirring them up too ſoon, and accelerating them above their uſual ſpeed, as near Cape Verde, or contracting them ſome degrees within their common limit, and by and by enlarging them as far beyond it, as all along the Guianean coaſt; in others thwarting them as much by their tranſverſe courſe from ſouth to north, as on the weſtern ſhores of Angola and Peru, for a thouſand leagues together; in others, blowing directly from the oppoſite points, as along the ſouthermoſt part of Guinea, from Sierra Leona to the bottom of the Bay; and all this perpetually.

Yet, in the Indian Ocean, theſe ſea-bred gales become of ſo complying a temper as to yield readily to the periodical inſults of its eaſterly Trade-winds, and withal, as reſpectively to ſupply all the vacancies left behind them in their abſence; which anſwers the utmoſt inquiry yet made into the phenomena of winds, owing to the immediate cauſes of the various and irregular motion of the ſea itſelf, which occaſions them.

As I have, in my deſcription of the Coaſt of India, given a very particular account of the Monſoons in general, both in the Indian and Chineſe Seas, and of the wind in general in the Indian Seas, as far as the Cape of Good Hope. So I ſhall here conclude this Treatiſe of the Winds with one obſervation more of the Winds and Monſoons on the Coaſt of India; That always when the calms are more frequent than ordinary, then thoſe tempeſts and hurricanes uſual on the Coaſt of Coromandel and Sea of China are to be expected, which ſo conſtantly fall at the end of the weſterly Monſoons, that they are commonly called the breaking up of the Monſoons; ſo that every where a calm indiſpenſibly attends them, general ſpeaking. This Treatiſe of the Winds I have the more willingly

ſubmitted

ſubmitted to public view, that time and opportunity might at leiſure adjuſt miſtaken circumſtances, and that by the aſſiſtance of freſh obſervations and the induſtry of Art, the whole Theory might at length be improved into a common ſtock of Uſeful Knowledge.

Some additional Remarks and Obſervations on the Winds which are moſt prevailing in the Engliſh Channel, Bay of Biſcay, on the Coaſt of Ireland and Coaſts adjacent, by which the Navigator may know when he is coming in or going out of the Engliſh Channel; what Winds he may expect to meet with at certain ſeaſons of the year.

The prevailing Winds in the Engliſh Channel are the ſouth-weſt, weſt to north-weſt; theſe Winds are of the greateſt extent and longeſt duration, as they are found to blow eight months in the year, and frequently produce violent ſtorms, particularly in Winter, with this difference, ſouth-weſt Winds are generally accompanied with rain and hazy weather, and the north-weſt Winds generally blow ſtrong with clear weather, and when it moderates with the Wind at north-weſt, it is always accompanied with clear fair and ſettled weather, more to be depended on than when the Wind is in any other quarter of the compaſs. Theſe Wiuds take their riſe or beginning all along the coaſt of North America and Newfoundland, and blow quite acroſs the Atlantic or Weſtern Ocean to Ireland, and into the Engliſh Channel, but it is to be obſerved the ſouth-weſt Winds prevail moſt in the Summer, and the north-weſt Winds in Winter, each having their intervals of ſtorms and moderate weather, but in croſſing the Weſtern Ocean in the Summer, I have always found the Winds in the ſouth-weſt quarter for many days together moderate and fair weather, but if the Wind comes in the north-weſt quarter at this ſeaſon of the year, it generally blows ſteady gales with clear weather.

The northerly and ſoutherly Winds are not prevailing Winds; they blow partially by fits and ſtarts, are of no great extent nor of long duration, but ſometimes produce ſtorms and blow hard for the time they laſt. Theſe Winds you have in the Engliſh Channel, Coaſt of Ireland, Bay of Biſcay and Cape Finiſterre, but from Cape Finiſterre to the Rock of

Liſbon and to Cape St. Vincent the prevailing Winds are northerly, blowing conſtantly that way for eight or nine months in the year, with tolerable fair weather in the Summer time; in the Winter, if they have ſtorms, they generally blow from the ſouth or ſouth-weſt, and are violent when they happen.

From Cape St. Vincents to Madeira and the Canary Iſlands the prevailing Winds are north-eaſt; if they have ſtorms they are from the ſouth, ſouth-weſt or weſt, when they happen they are frequently violent, but are of ſhort duration and leſs extent, and do not frequently happen but during the Winter time. Ships bound to the ſouthward generally embrace theſe north-eaſt winds to run them into the Trade-wind.

The ſouth-eaſt, north-eaſt, and eaſterly Winds at certain times are prevailing Winds in the Engliſh Channel, Coaſt of Ireland and Bay of Biſcay, and at certain times extend far into the Weſtern Ocean, ſo that they may be juſtly called periodical Winds, as they come at certain periods of the year, and blow a conſtancy for a time, and are of great extent and force, they blowing from the Engliſh Channel, quite acroſs the Weſtern Ocean, and are found at certain times of the year, when they prevail in the Engliſh Channel, to blow on the coaſt of North America, where they ſometimes blow with great violence as I have experienced, and it is a received opinion at the time of the year, that the eaſt winds frequently blow on the coaſt of North America; if they have a ſtorm it is from the eaſtward, and blows with great violence; thoſe eaſterly Winds prevail on the coaſt of North America in the latter end of September, and in the months of October, March and April, and ſometimes in January, but are not of ſuch ſtrength, extent, and continuance as in October and March.

The periods of time that the eaſterly Winds prevail in the Engliſh Channel, Coaſt of Ireland, and Bay of Biſcay, are the latter end of September and all the month of October, the middle of the month of March and all April, when it may be ſaid they blow almoſt for a conſtancy, with ſome ſhort revolution of the Winds frequently variable, which are of no extent and of ſhort duration, it muſt alſo be obſerved that the eaſterly and north-eaſt Winds prevail in the month of January, where they blow moſtly that way for the whole of that month, frequently freſh or ſtrong gales and ſometimes a great deal of moderate weather with

theſe Winds; at all other times of the year the Winds are variable and changing, as by experience they are generally found, with ſtorms, calms, and moderate weather, &c.

One obſervation more I muſt beg leave to make, which is, when you have a ſtorm at ſouth-weſt, Summer or Winter, which is always accompanied with wet or ſmall drizzling rain, if you find it ſets in to rain very hard, and perhaps the Wind will blow ſtronger than before, then prepare for a ſudden change of weather, the moment it begins to lull; the Wind will fly round from ſouth-weſt to north-weſt in an inſtant of time, and frequently blows harder than before; or, at other times, a ſudden lull will turn to a calm; when this happens a ſhip is in more danger in the calm than ſhe was in the ſtorm. More of this in the Work itſelf, where things of this kind are more particularly ſpoken of, to which the Reader is referred.

And it muſt alſo be obſerved, that however the weather may be, fair or foul, if the Wind comes round againſt the Sun, it is a certain prognoſtic of uncertain troubleſome weather, and the Wind that then blows will not be of long duration.

I muſt here further beg leave to mention a Wind that blows all the way along the Coaſt of North America, and extends to the Weſt Indies *, and reaches to every part thereof at certain periods of the year, that is, in November, December, January, February and March, which Winds are of great extent, and blow with great force throughout the Weſt Indies at particular times and places, viz. the Gulph of Florida, Windward Paſſage, and all along the Coaſt of Cuba, Hiſpaniola, and Porto Rico, and are frequently found very violent at Jamaica, where they are called Norths, and it has often happened that great damage has been done by thoſe Winds, which frequently blow home to the Spaniſh Main, but are not ſo violent there, as they are more to the northward; theſe Winds blow by fits and ſtarts in thoſe months, and particularly at the new and full moon, when they blow ſo hard that they may be juſtly called ſtorms, which makes it neceſſary for ſeamen to guard againſt them. I have experienced their violence for many days together. Theſe Winds blow

* The North Wind,

in other months at times, but are not ſo violent, are of ſhort continuance and leſs extent.

Remarks on the Wind's natural tendency downward, or its preſſure towards the centre of the Earth.

And before I conclude this ſubject, I beg leave to make one remark more, which is well worth the attention of ſeamen and their ſerious conſideration, which is, they conceive the force of the Air or the Wind paſſes horizontally along the face of the water, or the ſea the ſhip floats on, which I beg leave to tell them is a miſtaken idea, and ſhall endeavour to explain to them in the ſhorteſt method I can. Notwithſtanding the water or ſea's ſuperficies be ſmooth for the Wind to glide eaſily over it, and its own nature preponderates the incumbent air, which is much lighter, and conſequently apt to float upon it, yet in regard they are both liquid bodies to cleave cloſe together, and are withall effectually applied to each other by the ſuperincumbent atmoſphere, the ſuperjected Wind and the ſubſtrate ſea muſt naturally ſtir up each other's motion, but in regard to its natural tendency declines it towards the centre of the Earth, or the centre of gravity, and it falls at laſt upon the ſurface either of ſea or land; this ſhews the Wind or current of air has a natural tendency downwards; from this conſideration ſeamen ſhould remember, when they are carrying ſails upon a ſhip at ſea, how ſhe is affected by the Wind that blows upon her, ſince it is found the Wind does not ſweep along the ſurface of the ſea horizontally, but that it has an oblique tendency or preſſure downwards, which deflects its courſe, and it acts upon a ſhip in a manner ſeamen are not aware of; and when a ſhip has ſails ſet upon her, the more ſhe heels the more the preſſure of Wind affects her, from its natural oblique deflection or tendency downwards or towards the centre of the Earth, which muſt greatly affect a ſhip in a violent ſtorm, and indeed the very motion of the ſea proves the truth of this aſſertion, when it is agitated to ſo great a degree as ſeamen of experience have frequently ſeen it; it is merely owing to its downward deflection to the centre of the Earth, or in other words, towards the centre of gravity, which all things have a tendency to, of whatſoever nature they may be.

AN

ESSAY

ON

PRACTICAL NAVIGATION AND SEAMANSHIP.

SOME PROPER REMARKS AND DIRECTIONS

FOR a large ſhip or ſhips to ſail from the Downs down Channel to the weſtward with the courſe and diſtance from place to place, with the ſoundings and depth of water in the fair way, and if turning with a contrary wind what depth of water a ſhip may ſtand into when ſtanding to the northward towards the Engliſh ſhore, and what depth of water a ſhip may ſtand to the ſouthward towards the French coaſt, wherein particular mention is made of the dangers that lie in a great ſhip's way, and what depth of water ſhe may ſtand into with ſafety when approaching the ſaid ſhoal or danger; with the flowing of the tides at the full and change of the moon, and alſo the true ſetting of the tides, and whatever elſe is neceſſary for the conducting a ſhip down the Channel, &c. &c.

I muſt here beg leave to remind the reader, that all the bearings and courſes throughout this tract are the true bearings as the land lies, unleſs particularly ſaid by compaſs, and as the variation in the Engliſh Channel at this time is about 23 degrees weſt, which is full two points, they may be eaſily reduced to the compaſs in the following manner, viz. NNE. by compaſs is the true North; WNW. is Weſt; SSW. is South; ESE. is Eaſt; and to obſerve the ſame in every other bearing or courſe.

I muſt alſo obſerve that it is the cuſtom for large ſhips when they moor in the Downs, or at the following places, viz. St. Helens Road, at the eaſt end of the Iſle of Wight, Spithead, Torbay, and Plymouth

Sound, to moor at SW. and NE. the beſt bower to the SW. and the ſmall bower to the NE. that they may lie with an open hauſe to the ſtrongeſt winds that blow, which occaſions the greateſt ſea, and gives the ſhip a violent pitching motion, which is always deſtructive to the cables when riding hard with a croſs in the hauſe, for which reaſon the croſs in the cables ſhould always be towards the ſmooth water quarter.

To ſail out of the Downs.

I will ſuppoſe a ſhip in the Downs and bound to the weſtward down Channel, it flows in the Downs 2 hours $\frac{1}{4}$ *. If the ſhip is moored in the Downs it will be neceſſary to unmoor ſhip ſo as to be ready for weighing anchor at high water; if the wind is fair, a ſhip may ſail out of the Downs at any time without waiting for tide, but if the wind is at ESE. or SE. which is a fair wind down Channel, a ſhip cannot ſail till high water †, at which time ſhe ought to weigh anchor, and by caſting the ſhips head in ſhore they will meet the firſt of the ebb tide ſooner in their favour: in turning out of the Downs take care not to ſtand nearer the ſhore in a large ſhip than 8 fathoms, and when ſtanding towards the Goodwin Sand not to ſtand into more than 10 fathoms for it is ſteep to: and when you ſtand to the ſhore again ſtand into no leſs than 8 fathoms, and when you ſtand off again towards the ſouth ſand head, ſtand into no more than 10 or 10$\frac{1}{2}$ fathoms, and when you ſtand towards the ſhore again ſtand into no leſs than 8$\frac{1}{2}$ or 9 fathoms, and between Walmer Caſtle and the South Foreland go not into leſs than 9 or 10 fathoms; and when you are ſtanding off again, ſtand into no more than 10$\frac{1}{2}$ or 11 fathoms, Upper Deal Mill on with Walmer Caſtle, is the mark for the South Sand-head, which is ſteep too: and when you bring Upper Deal Mill open to the ſouthward of Walmer Caſtle, or half way between the caſtle and the hillock will carry you clear of the South Sand-head, but bring Upper Deal Mill on with the hillock, it will bear NWbW. this is the ſureſt mark to go clear of the South Sand-head with

The depth of water a ſhip may ſtand into when turning out of the Downs.

Marks for the SouthSand-head.

theſe

* It flows in the Downs at full and change 2$\frac{1}{4}$ hours, the flood runs 6$\frac{1}{2}$ hours to the northward, and the ebb 5$\frac{1}{4}$ hours to the ſouthward.

† With the wind this way, you will have occaſion to make 2 or 3 tacks to get out of the Downs and round the South Foreland.

theſe marks on, you may ſtand to the eaſtward into 17 or 18 fathoms, and when you tack and ſtand to the weſtward, with the wind in the SE. quarter, you ſhould not round the Foreland in leſs than 12 or 13 fathoms of water, when the Foreland lights are in one, they bear WbS. you are then clear of all danger, and may ſteer your courſe for Dungeneſs.

The depth of water a ſhip may ſtand into when ſhe is clear of the SouthSand-head and the marks to go clear of it.

The depth of water a ſhip may ſtand into when ſhe rounds the South Foreland, and the marks for it.

It flows at the South Foreland 11h. 6m.

A ſhip being off the South Foreland, it bearing weſt 2 or 3 miles in 15 or 16 fathoms water, direct your courſe down the Channel: the courſe from the South Foreland to Dungeneſs is SW¼W. diſtance 6 leagues between the South Foreland and Dungeneſs, you will have ſoundings in the fair way from 15 or 16 fathoms off the South Foreland to 15, 14, 15 and 16 fathoms, this depth of water will carry your ſhip clear of all danger on either ſide, and will bring you to Dungeneſs a-breaſt of it, where you will have 14 fathom about 1½ mile or 2 miles diſtance from it.

From the South Foreland to Dungeneſs.

But ſhould the wind be contrary, and you ſhould be under the neceſſity of turning from the South Foreland to Dungeneſs, obſerve the following remarks of the ſhoals and dangers that lie between thoſe places about mid Channel between the South Foreland and Dungeneſs, and the coaſt of France lies a ſhoal, called the Ripraps: it lies NE. and SW. is very narrow, but is in length about 4 leagues; the SW. part bears from Dungeneſs EbS. 10 or 11 miles, and the NE. end bears from the South Foreland SE. 10 or 11 miles, and WNW. from Calais Cliffs, the ſhoaleſt part is neareſt the NE. end, where there is not more than 15 feet at low water, and in ſome places 21, 22, and 23 fathoms cloſe to them on either ſide; go not nearer them than 18 fathoms, 20 fathoms is cloſe to them.

Dangers between the South Foreland and Dungeneſs.

The Ripraps.

The next danger you have to guard againſt, is a ledge of rocks that runs off about a mile from the ſhore a little to the weſtward of Folkſtone, come no nearer them than 14 fathoms, there are 12 fathoms cloſe to them. I remember a homeward bound Eaſt Indiaman loſt on thoſe rocks about the year 1746, in a ſtorm, the ſhip went all to pieces and many of the people were drowned. There was formerly a ſhoal in this track, called

Rocks off Folkſtone.

Gunman Sand.

the Gunman Sand, but is ſaid to be waſhed away, and has now ſeven fathom water on it: it is but a ſpot, and there is 16, 15, 14, 13, 12 and 11 fathoms between it and the ſhore, and you have 16, 17, 18, 19 and 20 fathoms between this ſhoal and the Ripraps; I only mention this, as it may not alarm people coming ſuddenly into ſhoal water, the track and depth of water I have preſcribed, carries you within this ſhoal.

Remarks and Directions for a large Ship turning down Channel between the South Foreland and Dungeneſs, with a contrary Wind.

A ſhip turning from the South Foreland to Dungeneſs.

A ſhip being off the South Foreland in 15 fathom water, ſhe may ſtand to the ſouthward towards the Ripraps into 18 fathoms, and not to go nearer them, and ſhe may ſtand to the northward off Dover to 11 or 12 fathoms, and when ſhe tacks to the ſouthward towards the Ripraps, ſhe may ſtand into 18 fathoms, and when ſhe tacks to the northward ſhe may ſtand into 12 or 13 fathoms, but it muſt be obſerved when ſhe comes off Folkſtone, ſhe muſt not ſtand into leſs than 14 fathoms, there is a ledge of rocks a little to the weſtward of Folkſtone; there is 12 fathoms cloſe to them; you ſtill keep turning to the weſtward, ſtand no nearer the Ripraps than 18 fathoms, and when you ſtand to the northward towards the ſhore, ſtand into no leſs than 13 or 14 fathoms, until you come to Dungeneſs, you may round Dungeneſs in 12, 13, or 14, fathoms; diſtance from it 1½ mile or 2 miles.

Dungeneſs.

Deſcription of Dungeneſs.

Dungeneſs is a low beachy ſhingly point of land, projecting out into the ſea, which makes it a head-land, on which there is a Light-Houſe; this point is very bold too, you may go within 9 or 10 fathom water cloſe to the ſhore, there is anchorage to the eaſtward of the Neſs, with a weſterly wind in 10 or 12 fathom water, the Neſs bearing SWbW. or WSW. but this is not a road for great ſhips, it is fitter for ſmall ſhips and coaſters, its dangerous, ſhould the wind come to the ſouthward. It flows at Dungeneſs 2½ hours in the offing, here the Channel tides meet.

It flows in ſhore at Dungeneſs 10 ¾ hours.

A ſhip being off Dungeneſs and bound down Channel, and is in 13, 14, or 15 fathoms water, diſtance from the Neſs about 1½ or 2 miles, direct

direct your course down the Channel, the course from Dungeness to Beachy Head is WbS½S, distance 9 leagues. Between Dungeness and Beachy Head you will have soundings in the fair way, with a leading wind, from 14 to 15 fathoms off the Ness, to 15, 16, 17, 18, 19, to 20 fathom off Beachy Head; and when you bring Beachy Head to bear NW, you should not go into less than 19 or 20 fathom; this depth of water will keep you clear of the shoals off Beachy Head, viz. the Horse of Willington, and the Royal Sovereign Shoal, and carry you to the southward of them; you will have 18 fathoms very near those shoals, therefore go into no less than 20 fathoms.

From Dungeness to Beachy Head.

Remarks and Directions for a large Ship turning down Channel, between Dungeness and Beachy Head, with a contrary Wind.

A ship being off Dungeness, in 14 or 15 fathom water, she may stand off shore to the southward into 24 or 25 fathom water.* When she tacks and stands to the northward, if she stretches in to the westward of Dungeness, stand into no less than 16 fathoms; tack and stand to the southward; you may stand into 25 or 26 fathoms; tack and stand to the northward, if the ship fetches in; about half way between Dungeness and Beachy Head you may, when standing in shore to the northward, stand into 18 fathoms, tack and stand to the southward; on this tack you may stand into 28 or 30 fathoms, tack to the northward, and as you are standing that way, when Beachy Head bears NW, do not stand into less than 20 fathoms, which will keep you clear of and carry you to the southward of the Horse of Willington and the Royal Sovereign Shoal, which I have before mentioned, Beachy Head bearing NW, and your ship is in 20 fathom water; tack to the southward; on this tack you may stand into 30 or 34 fathom water; tack to the northward; and as you stand in shore for Beachy Head go into no less water than 20 fathoms. I suppose your ship to be abreast of Beachy

A ship turning down Channel, between Dungeness and Beachy Head.

The depth of water a ship may stand into both ways.

* I suppose the ship to the westward of the Ripraps, by standing into that depth of water; and suppose it to be an ebb tide, setting to the westward.

Depth of water and distance off Beachy Head.

Beachy Head, it bearing north or thereabouts, and you are in 20 fathoms water, nearer to it you ſhould not go.

From Beachy Head to Dunnoſe in the Iſle of Wight.

A ſhip being off Beachy Head and bound down Channel, and is in 20 or 21 fathoms water, Beachy Head bearing north, diſtance 3 or 4 leagues, direct your courſe down the Channel, the courſe from Beachy Head to the Iſle of Wight is WbS, 22 leagues; it flows at Beachy Head in the offing 11 hours. Between Beachy Head and the Iſle of Wight you have ſoundings in the fair way with a leading wind from 20, 21 or 22 fathoms off Beachy Head, to 22, 23, 24, 25 to 30 fathoms abreaſt of the Iſle of Wight, Dunnoſe bearing north, diſtance 3 to 5 leagues; keep without 20 fathom and you need fear no danger from the Owers; but come no nearer than 18 fathoms night or day.

Owers, a dangerous ſhoal.

The Owers is a dangerous ſhoal lying in the fair way between Beachy Head and the Iſle of Wight; many ſhips have been loſt on this ſhoal, to my own knowledge, more by ignorance and negligence than by ſtreſs of weather, I therefore ſhall give a particular deſcription of them.

A deſcription of the Owers.

The Owers are hard rocks, and have not more than 8 or 9 feet on them at low water; they lie nearly eaſt and weſt, and are between 7 and 8 miles in length, and are but narrow, being in ſome parts not above a quarter of a mile broad; the mark for the eaſt end of them is, the White way on the hill a little to the weſtward of Chicheſter church ſteeple, the White way will then be on with a grove of trees at Pegham, called Pegham Grove, thoſe marks then will bear NNW$\frac{1}{2}$W; the mark for the weſt end of the Owers is Chicheſter church ſteeple on with St. Rooks Hill, thoſe marks will bear NbE$\frac{1}{2}$E: this ſhoal lies about 8 miles or 3 leagues from the ſhore, and the weſt end bears from Dunnoſe eaſt, 5 or 6 leagues diſtance, and from the Culver Cliffs E$\frac{1}{2}$S, diſtance about 4 leagues; there is 15 or 16 fathom water cloſe to them to the ſouthward or ſouth ſide of them; the mark to keep to the ſouth ſide of the Owers is to keep Dunnoſe WbN$\frac{1}{4}$N, (to allow the preſent variation it will be by compaſs NWbW$\frac{1}{4}$N) this will carry you clear without them, that is to ſay to the ſouthward of them; but the beſt guide is to be governed by your lead, keep in 21 or 22 fathoms water,

Bearings and diſtance from the land.

Marks to keep clear of them.

and

and that will carry you clear of all danger from the Owers: the latter part of the flood tide and the firſt part of the ebb ſets towards the Owers. If I was near the Owers in little wind in night time or hazy weather, and I ſhoaling the water to 20 fathom, or any thing under that, I would anchor.

It flows at the Owers at 10½ hours.

Note, There is a light lately placed on the Owers.

I will ſuppoſe the ſhip again off Beachy Head, and bound down the Channel with a contrary wind, I will ſuppoſe the wind at SW or NW, and the ſhip turning down Channel, Beachy Head bearing north, 3 or 4 leagues, in 20, 21 or 22 fathoms water, ſtand no nearer Beachy Head than 20 fathoms, you tack and ſtand to the ſouthward into 36 fathoms, you tack to the northward; and all the way between Beachy Head and the Iſle of Wight, when ſtanding that way to the northward, go not into leſs than 20 fathoms, and when you ſtand to the ſouthward you may go into 36 or 38 fathoms, and when you draw near the Iſle of Wight; you may ſtand to the ſouthward into 38 or 40 fathoms, and when you have got as far to the weſtward as the Iſle of Wight Dunnoſe bearing north, diſtance from 3 to 5 leagues, you will have from 25 to 30 fathoms water.

A ſhip turning down Channel between Beachy Head and the Iſle of Wight.

The depth of water a ſhip may ſtand into both ways.

Sounding off the Iſle of Wight.

I muſt here beg leave to make a ſmall digreſſion from the matter I have been writing upon. In the year 1748, I was in a Man of War coming up Channel from Plymouth, bound to the Downs, in the latter end of October, there were 70 or 80 ſail of ſhips in company, all bound up Channel; we were about 5 P. M. between Dunnoſe and the weſt end of the Owers, rather neareſt the Owers, and at this time nearly high water in the offing, the wind flew round from SW. to ſouth and SbE. with ſome rain, and continued between the SbE. and ſouth all night, with drizzling rain, and began to ſnuffle and blow freſh, which obliged us to take in our ſmall ſails and ſingle reef the topſails, all the ſhips in company tacked and ſtood to the weſtward, but us in the Man of War, who continued to ſtand to the eaſtward; my Captain made uſe of the following argument with me, who at that time was Maſter of the Man of War, ſays he, it is very ſtrange that you will adviſe our ſtanding to the eaſtward, when all the ſhips that were in company have tacked

An inſtance of a ſhip ſtanding to the eaſtward and clearing the Owers, when the whole fleet tacked and ſtood to the weſtward with the wind at ſouth.

tacked and ſtood to the weſtward; there muſt be many experienced men in ſo great a number of ſhips, who are apprehenſive of the danger of the Owers, by their diſcontinuing to ſtand to the eaſtward with the wind to the ſouthward as it now is; and though I have a very good opinion of your knowledge and experience in the Channel, yet I wiſh you not to be too poſitive in this matter, in ſtanding to the eaſtward, which may be attended with ſerious or bad conſequences, ſhould we not be able to weather the Owers, and eſpecially as we differ in opinion from all the ſhips that were in company, who are all tacked and ſtood to the weſtward, and are now out of ſight.

To which I replied, Sir, I am obliged to you for the caution you have given me, and reminding me of the danger or riſque we may run, ſhould we not be able to weather the Owers, and as to the ſhips that were in company, their tacking and ſtanding to the weſtward does not give me any concern; I compare a fleet of ſhips to a flock of ſheep, one goes through the hedge and all the reſt will follow; I ſhall take no example from them contrary to my own ſenſe, reaſon and experience, there is no danger in our ſtanding on to the eaſtward, the ſhip goes quick through the water, makes but little lee way, we will keep the lead conſtantly going, and as long as we can keep in 22 or 21 fathoms water, we need fear no danger from the Owers, but if we ſhould ſhoal the water to 20 fathoms or under, we will tack and ſtand to the weſtward. The Captain was ſatisfied with my reaſoning, and we continued to ſtand on to the eaſtward, the wind nearly ſouth, the ſhip lay up no better than ESE all night, we kept the lead conſtantly going, and had 23, 22, 21, 22, 23, 22, 22, 21, 21 and 22 fathoms water, and never had leſs than 21 or 22 fathoms; the ſhip ſailed at the rate of 5 or 6 knots all night, the moon got up about 2 o'clock in the morning. At 4 A. M. ſaw Beachy Head bearing NbW, diſtance 4 leagues; at noon got into the Downs. I muſt here obſerve, the fleet of ſhips that were in company with us in coming up the Channel when we were off the weſt end of the Owers, did not get into the Downs till 30 hours after us. So much for not following the croud, and making uſe of our

The depth of water the ſhip paſſed to the ſouthward of the Owers.

The advantage gained by this proceeding.

own

own reaſon, and keeping the lead conſtantly going, which is the ſureſt and beſt guide in navigating a ſhip where ſoundings can be had, or where there are ſoundings.

N. B. The variation at this time was allowed to be $1\frac{1}{2}$ point weſterly.

I have been juſt mentioning the Owers, and ſpoke of my ſtanding to the eaſtward with the wind ſoutherly, and was between the eaſt end of the Iſle of Wight and the Owers, when all the ſhips in ſight tacked and ſtood to the weſtward, as night was coming on, we ſtood to the eaſtward, and cleared the Owers in the depth of water mentioned in that paragraph. I was again coming up the Channel in the ſame manner when I commanded a ſhip in the Jamaica trade, in June, 1754, homeward bound, was taken with the wind at ſouth and SbW. at 6 PM. Dunnoſe Point on the Iſle of Wight bore NbW. 4 leagues; being moderate and hazy weather with rain, kept the lead going every half hour; from 8 to 12 PM. had ſoundings at 28 and 30 fathoms, the ground rocky, with coarſe ſand and ſhells: by our ſoundings at 12 PM. ſuppoſed ourſelves to the eaſtward of the Owers in the fair way running up Channel. At 1 AM. had freſh gales with rain, the courſe EbS, the wind SSW; at noon ſaw Beachy Head, bearing NbE. 3 or 4 leagues. The ſhips that were coming up Channel with us in the evening, tacked and ſtood to the weſtward, they being afraid of the Owers; we ſtood to the eaſtward all night, as before mentioned, and was a-breaſt of Beachy Head at noon: this again ſhews the folly of navigators, I have frequently found the winds flying to the ſouthward, when I have been off the eaſt end of the Iſle of Wight.

Another inſtance of a ſhip paſſing the Owers with a ſoutherly wind by her ſoundings, when a great number of ſhips in company tacked and ſtood to the weſtward. This ſhip gained her paſſage with great advantage, whilſt the ſhips that tacked to the weſtward loſt much time.

In the year 1741, I was in a Man of War, who was ordered from Plymouth to Cruize between Dover and Calais, and in cruizing on that ſtation had occaſion to croſs the Ripraps ſeveral times. Our ſhip being ſmall, carrying only 20 guns, we did not fear any danger from them, but kept our lead going in croſſing the ſhoal of the Ripraps; the many times we croſſed them we found no leſs than $3\frac{1}{4}$ and 4 fathoms on them, and 20 fathoms cloſe to them, and 21, 22 and 23 fathoms on each ſide of them; but it is ſaid there are not more than 15 feet on the NE. part

An opportunity of ſounding about the Ripraps.

of them at low water. We were ordered by expreſs to Portſmouth and were off Dover when we received our orders, the wind weſterly; we made ſail and turned down the Channel, it came on to blow with thick and hazy weather, and did not ſee the land for 9 or 10 days, it blowing ſtrong all the time, we were ſometimes under double or cloſe reefed topſails, and ſometimes under our courſes; the winds from WSW. to WbN. all the time. The tenth day we ſuppoſed ourſelves or the ſhip as far to the weſtward of the Iſle of Wight, having turned all the way from Dover thus far without ſeeing land. We were ſtanding to the northward under our courſes between 11 and 12 AM. and were preparing to wear ſhip, ſuppoſing ourſelves as near the land as we ought to go, being in 26 fathoms water, the weather being very thick and hazy; in an inſtant of time there appeared ſeveral ſail of ſhips to the weſtward of us which was to windward, running up the Channel with a croud of ſail they hailed as they paſſed us, and aſked how the land bore and what land they were near, and ſaid they had not made any land; we told them we had not ſeen the land for 10 days, but we ſuppoſed ourſelves off the Iſle of Wight. In an inſtant they paſſed us and were out of ſight we wore ſhip to the ſouthward, and in 10 or 15 minutes the weather cleared up, and we ſaw the land very plain being Peverel Point, the Needles, and the land all along ſhore, found ourſelves a little to the weſtward of the Needles, theſe ſhips that had juſt paſſed us we ſaw very near the Needles Point, almoſt aſhore, but were enabled by the wind ſuddenly ſhifting from WSW. to WNW. to haul to the ſouthward and clear the land, but in great confuſion; had the weather continued hazy, as it was when thoſe ſhips paſſed by us, they muſt all have been aſhore on the Needles or Freſhwater Bay in 20 minutes. So much for coming up the Channel without ſounding or ſeeing the land. Raſhneſs beyond excuſe: when we ſaw the land plain, we bore away, went through the Needles, and run to Spithead.

A ſhip turned from Dover to the Iſle of Wight without ſeeing the land.

Theſe ſhips were a Man of War of 40 guns with ſeveral ſail of Indiamen under her convoy from St. Helena.

I will now take the ſhip up where I left her, when I began my digreſſion, and left off my directions for a ſhip ſailing or turning down the Channel between Beachy Head and the Iſle of Wight, and I ſuppoſe her to be got as far to the weſtward as the Iſle of Wight, with

Dunnoſe

Dunnoſe bearing north, from 3 to 5 leagues, in 25 or 30 fathoms water.

I will now ſuppoſe the ſhip to be off Dunnoſe, it bearing north, diſtance 3 leagues, and you are in 24 or 25 fathom water, and you are bound down the Channel, with the wind weſterly, and it is coming on to blow and looks like bad weather, and you wiſh to take ſhelter in a good Road-ſtead, which you may do in St. Helen's Road or at Spithead, where you may lie in ſafety; I ſhall endeavour to give you proper directions for a large ſhip to go into St. Helen's Road and to Spithead, with the depths of water and marks for anchoring, &c.

A ſhip off the Iſle of Wight.

St. Helen's Road.

Directions for a Ship to go into St. Helen's Road and to Spithead for Shelter.

A ſhip being off the Iſle of Wight in 24 or 25 fathoms water, Dunnoſe bearing north or NbE. diſtance about 3 leagues, with the wind weſterly, ſteer for Dunnoſe; you will ſhoal your water from 25 to 20, 19 and 18 fathoms, when Dunnoſe will bear north or NbE. diſtance 2 miles. From Dunnoſe to the buoy of Bambridge Ledge is NEbE. diſtance 7½ miles, you will have ſoundings or depth of water in this track, as you run for the buoy of Bambridge Ledge, as follow, viz. Dunnoſe north or NbE. 19 or 18 fathoms, to 17, 16, 15, 14, 13, 12, 11, 10, 9, 8, 7½, and 7 fathoms, in which depth you may croſs Bambridge Ledge. The buoy of Bambridge or Betty's Ledge, lies on the ſhoal of the point, in 4 fathoms at low water; a ſhip muſt go to the eaſtward of it, between it and the buoy of the Knapp.

From Dunnoſe to the buoy of Bambridge Ledge, now called Betty's Ledge.

The buoy on Bambridge Ledge is now a black buoy.

I muſt here beg leave to obſerve, that there having been ſeveral buoys laid down on ſhoals and rocks which lie in the fair way, off the eaſt end of the Iſle of Wight, which have been laid down ſince I left Portſmouth, that makes it neceſſary for me to mention them with their exact ſituation, for the navigator's information and guidance, which are as follow.

A digreſſion from the work by way of notation.

The Bearings and Situation of theſe Buoys, &c. with the Depth of Water they lie in, and Bearings & Compaſs.

Princeſſa Shoal, or the North Offing.

Princeſſa Shoal, or the North Offing, there is a black buoy on the SE. extremity of it, in 28 feet water at low water on ſpring tides, and rocky ground; and on the NW part of the ſaid ſhoal there is a white buoy in 23 feet at low water: they bear from each other NWbN. and SEbS. near a mile aſunder; Culver Cliff bears from the black buoy WNW. 3 miles, and Bambridge or Betty's Ledge Point NNW. $2\frac{1}{4}$ miles, and from the white buoy Sandown Caſtle bears W$\frac{3}{4}$N. juſt on with the high water mark of the Culver Cliff, and Bambridge Point bears NbW$\frac{3}{4}$W. $1\frac{1}{2}$ mile. When at the black buoy on the SE. end of the Princeſſa Shoal are theſe bearings, Portſmouth church tower is nearly its apparent breadth to the weſtward of the cupola or belfrey on the new ſtore-houſe clock in the dock yard, it then bearing N. 2° E. or N$\frac{1}{4}$E. There is a red cliff to the weſtward of the Culver Cliff, (which is white) the red cliff a little open with the Culver Cliff, carries you a little to the ſouthward of the SE. buoy of the Princeſſa Shoal, and very near it: this buoy lies in 28 feet water at low water, and is pretty ſteep too, going off quickly to the ſouthward into 9, 10, 11, 12, 13 and 14 fathoms, half a mile to the ſouthward of the ſaid buoy: and to the eaſtward of the black SE. buoy the ground is even, and only about 6 or $6\frac{1}{2}$ fathoms for 2 or 3 miles to the eaſtward of it at low water, ſpring tides; the buoy of Betty's Ledge bears from this buoy NbW. diſtance $1\frac{3}{4}$ of a mile, the depth of water between them are 5, 6, 7, $7\frac{1}{2}$ to 8 fathoms towards the buoy of Betty's Ledge. Dunnoſe Point bears from the aforeſaid black buoy WSW$\frac{3}{4}$W. or WbS$\frac{1}{4}$S. diſtance 8 miles, and the buoy of the Knapp (which is a red buoy) bears from the black buoy on the SE. part of the Princeſſa Shoal NbE$\frac{3}{4}$E. diſtance nearly 2 miles.

Bambride Point or Betty's Ledge.

The black buoy on the eaſt extremity of Bambridge Point or Betty's Ledge, lies in 24 feet at low water on ſpring tides; the white buoy on the North Offing or Princeſſa Shoal bears from this buoy SSW. a large

large mile diſtant, and Mr. Dinnet's ſummer-houſe near Bambridge Point bears W¼N. diſtance a little more than ¾ of a mile from the high water mark, and the buoy of the Knapp Rock bears from this buoy EbN½N, diſtance one mile.

The buoy of the Knapp Rock lies in 23 feet water at low water, and is a red buoy, and bears EbN½N. from the buoy of Betty's Ledge, diſtance one mile. Buoy on the Knapp Rock.

As I have ſaid much about the Princeſſa Shoal, I muſt beg leave to conclude it with this remark, which is, as there is never leſs water on this ſhoal at the loweſt ſpring tides than 21 feet, which does not happen above 3 or 4 times a year, all ſhips under 20 feet water may go between the buoys of the Princeſſa Shoal at any time; and at neap tides, even at lowwater, any firſt rate ſhip in the navy may paſs betweeen the Buoys, but from experience I would not adviſe any ſhip to paſs within them, notwithſtanding there is deep water, little or nothing can be gained by ſuch a proceeding. A friend of mine, an experienced officer, told me he was once obliged to anchor in that channel, by reaſon of his being becalmed, and found the ſea on both tides to ſet on the ſhore, the wind came eaſterly, with bad weather, and it was with great difficulty they could ſave the ſhip.

Directions for large Ships in coming from Sea, and bound into St. Helen's Road.

They muſt go to the ſouthward, and eaſtward of the buoy of the Princeſſa Shoal or North Offing, and may croſs the Ledge, and go between the buoy of Bambridge or Betty's Ledge, and the buoy of the Knapp. I ſhall now proceed in giving my former directions for going into St. Helen's and Spithead.

Notation to Ships ſailing in or out from St. Helen's to Spithead.

I have known many accidents and misfortunes happen to ſeveral of our large ſhips in the courſe of the laſt war, by their running a-ſhore on the ſands, &c. in which ſeveral of them had nearly been loſt, through want

of

of proper attention, which has made me the more particular in my deſcription of that navigation, &c. Their miſtakes have frequently occaſioned me much trouble, anxiety, care and fatigue, at the times when thoſe accidents happened.

As you ſail along in the aforeſaid track, you will open Sandown Bay, which is a round deep bay between Dunnoſe and Culver Cliff; about the middle of this bay ſtands Sandown Caſtle: keep the ſaid caſtle juſt open with the Culver Cliff, will lead you to the NW. buoy of the Princeſſa Shoal, to the northward of it, but you muſt go to the ſouthward and eaſtward of both; when you have rounded the SE. buoy of the ſaid ſhoal, in 9, 9½ or 10 fathoms water, continue to ſteer to the eaſtward until you open the ſea mark in St. Helen's, one ſhip's length open with the red cliff within Bambridge Point, you will then ſee the buoy of Bambridge Ledge; you may then haul to the northward for St. Helen's Road: by ſteering in north or N¼E by compaſs, you will croſs the Ledge in 6½ or 7 fathoms. About a mile EbN½N. ℔ compaſs from the black buoy of the Ledge, there is a ſmall Knowl with 23 feet water on it at low water on ſpring tides, on which there is a buoy; a ſhip ſhould go between this buoy and the buoy of the Ledge, and will have as much water as will be found to the eaſtward of the buoy of the Knowl, which is called the Buoy of the Knapp. There is a very good mark for croſſing Bambridge Ledge, viz. keep Portſmouth church tower to bear north ℔ compaſs, for a leading mark; this is a good mark to croſs Bambridge Ledge, in 6, 6½ or 7 fathoms, according as the tide may be. You will have no more water 2 or 3 miles to the eaſtward of the Ledge, and this mark will carry you between the buoy of the Ledge and the buoy of the Knapp.

Marks to croſs Bambridge Ledge.

The buoy of the Knapp is red.

Further marks for croſſing Bambridge Ledge, with the depth of water.

Having croſſed Bambridge Ledge, and you are ſteering to the northward, you will deepen your water from 6½ or 7 fathoms on the Ledge, to 8, 9, 10, 11, 12 or 13 fathoms, which are the ſoundings between the Ledge and the Buoy of the Dean, which ſhoals gradually towards the Dean Sand to 12, 11, 10, 9, 8, to 7 fathoms, into leſs a great ſhip ſhould not go, than 8 fathoms.

Soundings when you have croſſed Bambridge Ledge, between that and the Dean Sand.

But

But if a great ſhip is bound down Channel, and puts in for ſhelter only, has no occaſion to go farther than St. Helen's Road, it being ſafe and good holding ground, where ſhe may lay in great ſafety. St. Helen's Road.

The marks for anchoring in St. Helen's Road are St. Helen's Beacon, or ſeamark W½S. or WbS Bambridge Point SWbS. or SW½S. by compaſs, in 10 or 11 fathom water. A great ſhip ſhould not go into leſs water, nor go farther into St. Helen's Bay, for the following reaſons, if the ſhip goes into 7 or 8 fathoms water, the tides run ſo very irregular that ſhe will not be able to keep a clear anchor or a clear hawſe, the beſt anchorage in St. Helen's Road, is the bearings above mentioned. You will then be in the ſtream of the tide that comes from Spithead, between the Warner and Dean Buoys, which runs true and regular; it flows at St. Helen's Road 11¾ hours. Marks and depth of water for anchoring in St. Helen's Road. The tides and time of high water. The flood ſets to the eaſtward and the ebb to the weſtward.

I will ſuppoſe a large ſhip off Dunnoſe and bound to Spithead, and ſhe has got a leading wind; and as the Princeſſa Shoal has been diſcovered to be dangerous to large ſhips, I beg leave to make the following remarks to the ſeaman and navigator for his guidance, viz. "A mark on Dunnoſe point, the laſt cliff to the weſtward of Dunnoſe to be kept juſt open with the loweſt part of Dunnoſe Point; the cliff will appear rather white and higher than the low point of Dunnoſe, and it will bear WSW¾W. or WbS¼S. by keeping theſe marks with theſe bearings, will carry you direct to the SE. buoy of the Princeſſa Shoal." A ſhip being off Dunnoſe in 20, 19 or 18 fathoms water, when Dunnoſe will bear north or NbE. diſtance 2 or 2½ miles. From Dunnoſe to the buoy on the SE. part of the Princeſſa Shoal the courſe, is by compaſs EbN¼N. diſtance 7½ or 8 miles, if the wind is weſterly and you ſteer a courſe for the outward part of the Princeſſa Shoal, you will have ſoundings or depth of water in this tract as you run to the eaſtward, viz. Dunnoſe north or NbE. diſtance 2 miles, and you are in 19 or 18 fathoms water, you will ſhoal the water as you go to the eaſtward to 17, 16, 15, 14, 13, 12, 11, 10 and 9 fathoms, keep without 9 fathoms or between 9 and 10 fathoms, will carry you without or to the ſouthward of the SE. Buoy of the Princeſſa Shoal, continue to ſteer to the eaſtward, and paſs the ſaid

SE.

SE. Buoy of the Princeſſa Shoal, in 9, 9½ or 10 fathoms, and ſteer to the Eaſtward untill you open the ſeamark at St. Helen's, a ſhip's length open with the Red Cliff within Bambridge Point, you may then haul to the northward for St. Helen's Road by ſteering N. or N¼E. by compaſs, look out for the leading mark for croſſing Bambridge Ledge, which is, keep Portſmouth Church Tower to bear N. ℔ compaſs, for a leading mark to croſs Bambridge Ledge in 6, 6½ or 7 fathoms, according as the time of tide may be, you will have no more water two or three miles to the eaſtward of the Ledge, and this mark will carry you between the Buoy of the Ledge and the buoy of the Knapp. When a ſhip has rounded the SE. buoy of the Princeſſa Shoal and has hawled to the northward and is running for the Ledge, with Portſmouth Church Tower bearing north, ſhe will have the following ſoundings from 9½ fathoms to 9, 8½, 8, 7½, 7, 6½ or 6 fathoms on the Ledge at low water time.

The leading mark for croſſing Bambridge Ledge, with the depth of water.

Keep the marks on and you will deepen the water from 7 fathoms on the Ledge, to 8, 9, 10, 11, 12, and 13 fathoms, by keeping the marks as before mentioned, they will lead you a little to the weſtward of the Buoy of the Dean, and in this Track you will ſhoal your water from 13 fathoms to 12, 11, 10, 9, 8, to 7 fathoms towards the Dean Sand, Into leſs than 8 fathoms a large ſhip ſhould not go, if you have a leading wind in the fair way between the Buoys, you will have 11, 12, or 13 fathoms, when you are coming in from St. Helen's and ſteering for the Channel between the Buoys; when you come into 10 or 9 fathoms, you will ſee the Buoys that point out the Channel to Spithead; on the eaſt ſide of the Channel are the black Buoys of the Dean, Buoy of the Elbow of the Horſe, and the Buoy of the Hoſe. On the weſt ſide of the Channel are the white Buoys of the Warner, and the Buoy of No-man's-land, the Channel is between theſe Buoys; the leading mark through the Channel is inſtead of Gilkicker, keep the Magazine at Fort Monckton, which is built near the place, where the Kicker formerly ſtood, for a leading mark. Keep Gilkicker on with the Magazine at Fort Monckton, will carry you through the Channel between the Buoys in 13 or 14 fathoms; but it muſt be obſerved, that this mark cannot be diſtinctly or clearly

Daan Sand and ſoundings towards it.

Sounding in the fair way.

Black Buoys on the eaſt ſide of the Channel. There are alſo two Black Buoys to the eaſt of the Buoy of the Dean, on the back of the Sand.

White Buoys on the weſt ſide of the Channel.

Leading mark through the Channel between the Buoys.

ſeen

ſeen when there are many ſhips riding at Spithead, when that is the caſe, if you keep the Royal Hoſpital at Haſlar, to bear NNW, or NNW a little northerly by Compaſs; it is a good leading mark through the Channel, between the Buoys, in 13, 14, or 15 fathoms water, by which you may run to Spithead and anchor in 9, 10, 11, or 12 fathoms water. You may anchor in 8 fathoms water, Monckton Fort NWbN, and South Sea Caſtle NEbE by Compaſs; or, you may anchor in 12 or 13 fathoms water, Monkton Fort NNW, and South Sea Caſtle NE, by Compaſs. It flows at Spithead 9½ hours, the flood to the eaſtward and ebb to the weſtward. The Buoy of the Edgar lies in the fair way to Spithead in 13 fathoms water; this Buoy is red, and lies on the wreck of the Edgar. The wreck of the Royal George lies a little to the NW of the Buoy of the Edgar, her Maſts are ſtill ſtanding, which ſerve as a Beacon.

Depths of water and marks for anchoring at Spithead.

Buoy of the Edgar.

Wreck of the Royal George.

Some other Directions for going into Spithead.

I will ſuppoſe you have croſſed Bambridge Ledge and are running in with a leading wind, and you have got Portſmouth Church Tower the leading mark between N. and N¼W. This is a good leading mark to lead you to the Channel between the Buoys, and will lead you fairly in ſight of them, but will carry you rather nearer the Buoy of the Dean in 10 or 9 fathoms water. I will ſuppoſe the wind takes you ſhort here by its coming to the north or northweſt, which obliges you to turn to Spithead, and your ſhip is in St. Helen's Bay without all the Buoys.

Leading mark in going to Spithead between the buoys.

Turning to Spithead in the Channel between the buoys.

In this ſituation you are ſtanding to the eaſtward, at the back of the Dean Sand, it will be moſt to your advantage to keep working in the opening or Stream of the Channel between the Buoys, where the tides run the ſtrongeſt and the trueſt, and when you come to enter the Channel between the Buoys, ſtand no nearer the Buoy of the Dean than 9 or 8 fathoms, nor nearer the Buoy of the Warner than 13 or 14 fathoms:

Depth of water a ſhip may ſtand in both ways.

Set of the tides between the buoys, the flood runs to the SE. the ebb to the NW.

here I muſt obſerve the ſet of the tides, the firſt part of the ebb ſets ſlanting to the weſtward all the way between the Buoy of the Warner and the Buoy of No-man's-land, and the flood, eſpecially the latter part of it ſets ſlanting to the eaſtward all the way between the Buoy of the Horſe and the Buoy of the Dean, ſo that ſhips ſhould take care not to ſtand too near thoſe Sands with a flood-tide, nor to the Warner and No-man's-land with an ebb-tide.

The Warner and No-man's-land Sands are ſteep too.

I muſt here obſerve, that the Sands of the Warner and No-man's-land, and all the way between thoſe Buoys, the Shoal is ſteep too, you will have 17 and 18 fathoms cloſe to the edge of the Sand, ſo ſteep it is that in a boat's length I have had 3 fathoms at the boat's bow and 18 fathoms at her ſtern, at high water. But at the Dean and Horſe Sands it ſhoals gradually towards them, from 10 to 9, 8, 7, 6, 5, 4, to 3½ fathoms, in which depth the Buoys are placed.

The Dean and Horſe Sands, gradual ſoundings towards them.

Turning to Spithead in the Channel between the Buoys.

As I have mentioned before, I ſuppoſe your ſhip turning to Spithead and you are entered the Channel between the Buoys, when you are ſtanding to the weſtward between the Buoy of the Warner and the Buoy of No-man's-land, you muſt not expect to ſhoal the water as you ſtand to the weſtward, for the water deepens to the edge of the Sand; therefore ſtand into no more than 14 fathoms, then tack and ſtand to the eaſtward, towards the Dean and Horſe Sands ſtand into no leſs than 9 or 8 fathoms, then tack and ſtand to the weſtward in the before-mentioned depth of water. In this depth of water, you may turn or ſtand into with any ſhip in ſafety, and turn to Spithead, where you may anchor in any depth of water you pleaſe, from 8 to 12 or 13 fathoms, as before mentioned; the further to the weſtward, the better road at Spithead.

Depth of water a ſhip may ſtand into on each tack.

Depth of water for anchoring.

Directions for a Ship in Sailing from Spithead, out to St. Helen's, and Croſs Bambridge Ledge, when bound down the Channel.

To ſail from Spithead to St. Helen's with a leading wind.

The Ship is ſuppoſed to be at Spithead, and ready to weigh anchor as ſoon as the Flood Tide makes to the eaſtward, but if there happens

to

to be a leading wind through the Channel between the Buoys, a ſhip need not ſtay for the flood-tide, but may weigh anchor and may run out againſt the ebb, to obſerve the leading marks through the Channel, by keeping Kicker Gil on with the Magazine at Fort Monkton; this is the leading mark through the Channel, or keep the Royal Hoſpital at Haſlar NNW northerly ℔ Compaſs, you will have 12, 13, 14, or 15 fathoms water, in the fair way between the Buoys, until you get to the SE ward of the Buoys of the Dean and Warner. When by ſteering to the SEward in St. Helen's Bay, you will ſhoal the water from 14 or 15 fathoms between the Buoys of the Dean and Warner, to 13, 12, 11, and 10 fathoms in the fair way as you run to the SEward in croſſing St. Helen's Bay, in order to croſs Bambridge Ledge. But if you ſhould be obliged to anchor in St. Helen's Road, the beſt marks for anchoring are, St. Helen's Beacon or Seamark, W½S or WbS, and Bambridge Point, SWbS or SW½S, ℔ Compaſs in 10 or 11 fathoms water; it flows in St. Helen's Road 11¾ hours.

A ſhip may fail from Spithead in an ebb tide.

Bearings and depth of water for anchoring in St. Helen's Road.

I will ſuppoſe the ſhip at Spithead, and the wind at ESE. or SE. and bound to the weſtward, and ready to weigh anchor as ſoon as the flood tide makes to the eaſtward, in order to turn out between the buoys; I have before obſerved the flood tide ſets or runs ſlanting upon the Horſe and Dean Sands, which you are to be aware of in ſtanding towards the ſaid Sands; upon ſtanding towards the Buoy of the Horſe, go not into leſs than 11 fathoms, and when you ſtand to the weſtward towards the Buoy of No-man's-land, go not into more than 14 or 15 fathoms; this Sand is ſteep too, there are 17 or 18 fathoms cloſe to it, all the way between the Buoy of No-man's-land and the Buoy of the Warner, do not ſtand into more than 14 or 15 fathom, and all the way between the Buoy of the Horſe, and the Buoy of the Dean, ſtand not into leſs than 10 fathoms upon a Flood Tide, for the reaſons before-mentioned.

A ſhip turning from Spithead to St. Helen's with a flood tide.

What water a ſhip may ſtand into both ways.

I will ſuppoſe you have turned through the Channel between the buoys and have got without the buoys of the Dean and Warner to the SE. of them, and you are turning in St. Helen's Bay to the SEward, in order to croſs Bambridge Ledge; do not ſtand too far to the weſtward into St. Helen's Bay, if you do, you will get out of the tide, nor do not

Marks for turning in St. Helen's Bay.

ſtand too far to the eaſtward at the back of the Dean Sand, or you will alſo get out of the tide; ſtand no farther to the eaſtward than to bring the Royal Hoſpital at Haſlar on with the buoy of the Dean, nor ſtand further to the weſtward than to bring the ſaid Hoſpital on with the buoy of the Warner; by turning with theſe marks, you will keep in the ſtrength of the tide, which ſets to the SE. through the Channel between the buoys. When you have got thus far without the buoys, you will look out for the leading mark to croſs Bambridge Ledge, which is Portſmouth Church Tower, bearing north ℔ compaſs, this mark will lead you a little to the eaſtward of the Buoy of the Ledge, between that and the buoy of the Knapp, you will have ſoundings in this track, between the buoy of the Warner and the buoy of the Ledge, 13, 12, 11, 10, 9, 8, 7, or 6½ fathoms, in this depth you may croſs the Ledge, and run out to ſea, taking care to go to the eaſtward of the buoy of the Princiſſa Shoal.

Leading mark for croſſing the Ledge.

Soundings.

Princeſſa Shoal.

Being got without all the ſhoals, direct your courſe down Channel; but if you are taken with thick hazy weather or night time, before you get far enough out to take your departure, to ſteer a proper Channel courſe down Channel; in that caſe I would run out into a proper depth of water, by which I ſhould judge my diſtance from the land, and then ſteer a Channel courſe; in this caſe you may run into 25 fathoms water, you will then be about 3 leagues without Dunnoſe, and may ſteer the Channel courſe down Channel.

The depth of water to go into to ſteer a Channel courſe.

A ſhip being off the Iſle of Wight, and bound down Channel, and is 25 or 30 fathoms water, Dunnoſe bearing north from 3 to 5 leagues, direct your courſe down the Channel; the courſe from the Iſle of Wight to the Start is WbS. diſtance 34 leagues. It flows off the Iſle of Wight in the Channel 11½ hours; between the Iſle of Wight and the Start you will have ſoundings in the fair way from 25 to 30 fathoms; off the Iſle of Wight, 30, 31, 32, 33, 34, 33, 32 fathoms, Portland bearing North, diſtance about 4 leagues. You will then be 15 or 16 leagues to the weſtward of Dunnoſe on the Iſle of Wight. Between Portland and the Start,

From the Iſle of Wight to the Start, ſoundings in the fair way with the courſe and diſtance.

Start, you will have ſoundings in the fair way, 33, 34, 35, 36, 38, to 40 fathoms, the Start bearing North or from NbW. to NbE. diſtance 3 or 4 leagues.

Remarks and Directions for a large Ship turning down Channel, betweeu the Iſle of Wight and the Start, with a contrary Wind.

A ſhip being off the Iſle of Wight, in 25 or 30 fathoms water, from 3 to 5 leagues off ſhore, and has a contrary wind, ſhe may ſtand off ſhore to the ſouthward into 36 or 38 fathoms; and when ſhe ſtands to the northward towards the Iſle of Wight, ſhe may ſtand into 22 fathoms: between the weſt end of the Iſle of Wight and Peverel Point, a ſhip when ſtanding to the northward ſhould not ſtand into leſs than 28 or 26 fathoms, and when ſhe ſtands to the ſouthward, ſhe may go into 36 or 38 fathoms.

Turning down Channel, the depth of water a ſhip may ſtand into both ways.

Off Peverel Point.

It flows off Portland in the offing 11 hours.

Between Peverel Point and the Bill of Portland, when a ſhip is ſtanding to the northward, ſhe ſhould not ſtand into leſs than 30 or 28 fathoms; and when ſhe ſtands to the ſouthward ſhe may go into 38 or 40 fathoms. Between the Bill of Portland and the Start, a ſhip when ſtanding to the northward ſhould ſtand into no leſs than 30 fathoms water; here the Coaſt forms a deep Bay, which ſhips bound down or up the Channel, need not ſtand too far into it: a ſhip in this track, when ſtanding to the ſouthward, may ſtand into 40, 42, or 44 fathoms; and as ſhe draws near the Start, and the ſhip is ſtanding to the northward, not to go into leſs than 34 fathoms; and when ſhe ſtands to the ſouthward, ſhe may ſtand into 45, 48, or 50 fathoms: when you ſtand to the northward again, I will ſuppoſe your ſhip to fetch in with the Start Point, it bearing NbW. N. or NbE. diſtance 3 or 4 leagues, you will then have ſoundings in 38 or 40 fathoms water; you are then in the fair way. It flows at the Start in the offing 8½ hours.

Between Peverel Point and the Bill of Portland.

Between the Bill off Portland and the Start.

Off the Start Point.

It flows in ſhore at the Start 6 hours.

Having brought the ſhip abreaſt of the Start in 38 or 40 fathoms water, I will ſuppoſe the wind to come on to blow a ſtorm at WSW. or SW. and you are glad to ſeek for a place to ſhelter your ſhip; Torbay

is

Torbay, a Deſcription of it.

is under your lee, which is a good and ſafe Road-ſtead, for weſterly and SW. winds, ſo that the wind does not come to eaſtward of ſouth, you will lie in Torbay with great ſafety, and ſhould it ſo happen, that the wind ſhould come to the eaſtward, and it comes to blow a ſtorm, that you cannot get out of the Bay, the bottom is clear and good holding ground, your anchors will never ſtart, if your cables are good, you will ride it out, though there tumbles in a very great ſea, with an eaſterly wind, which makes it appear very unpleaſant, but there is a ſtrong undertoe, or underſet that ſets to windward, which makes a ſhip ride eaſy on her cables; we had a great proof of this in the laſt war, in the year 1780, when the whole of our Channel Fleet were caught in Torbay with a gale of wind eaſterly *, and rode it out without any material damage happening to them, except ſome of the large ſhips by the ſtrong undertoe, occaſioned the ſea to run ſo very ſhort, that it took the back of their rudder and broke their tiller, which occaſioned the loſs of their rudders. This was the only damage they ſuſtained in Torbay.

From the Start to Berryhead.

Your ſhip being off the Start in 38 or 40 fathoms water, 3 or 4 leagues off ſhore, and it is bad weather, and you bear away for Torbay, there is no danger in your way that lies above ¾ mile from ſhore; the land

Start Bay.

forms a deep Bay between the Start Point, and Dartmouth Harbour, called Start Bay, which you have no occaſion to go into. The courſe from the Start to the Brreyhead, is NEbN. diſtance 17 miles or near 6 leagues, you may paſs the Start within 2 or 2½ miles of it, in 23 or 25 fathom water, you will have ſoundings between the Start and

Soundings.

the Berryhead, from 25 or 23, off the Start to 22, 21, 22, 23, 21, and 20 fathom near the Berryhead; it is ſteep too: you may go within 12, 11, or 10 fathom cloſe to it, it is proper to give the Berryhead a birth

To go into Torbay.

not

* I muſt here obſerve that when our fleet were caught in Torbay with a gale of wind eaſterly, ſome of our judicious commanders and officers, in order to eaſe their ſhips and make them ride more eaſy on their anchors and cables, wore away on that cable the ſhip rode moſt by, untill the other anchor and cable grew more ahead, by which their ſhip rode out the ſtorm with more ſafety and leſs ſtrain on their anchors and cables, than thoſe that did not obſerve the ſame method.

not to go too near it, it is a high land, you will be liable to be becalmed; the Point of Bob's Noſe, is the NE. oint of Torbay, off which lies the Mew-Stone, which is bold too, you have 10 fathom water very near it, the entrance of Torbay is formed by the Berryhead, Bob's Noſe, and the Mew-Stone; and is about 6 miles wide, and nearly as deep, the ground all over the Bay is clear from rocks, and is good holding ground. In ſailing into the bay you may go cloſe to the Berryhead, and if you cannot fetch far enough into the Bay for anchoring in a proper birth, you may turn into the bay, as far as you think proper; both ſides of the bay are clear of danger, but in a large ſhip do not go too far into the bay.

Anchorage in Torbay with the bearings for a large Ship to anchor.

A good birth for a large ſhip to anchor in Torbay, the Berryhead SbE. and Painton Church WbN. and Brixham Key SSW. in 11 fathom water, another good birth for a large ſhip to anchor a little farther into the bay, you may bring the Berryhead to bear SbE½E. and Painton Church WbN½N. and Brixham Key SbW½W. in 10 fathom water, diſtance from the Berryhead between 2 and 3 miles; it is beſt to be neareſt the ſouth ſhore; in Torbay it flows at full and change of the moon 6¼ hours.

To ſail out of Torbay when you are bound down the Channnel.

To ſail out of Torbay.

The courſe and diſt. from Berry Head to the Start Point.

Soundings.

Being in Torbay and the wind comes round from the weſtward to the northward and your ſhip being bound down Channel, you will with a northerly wind prepare to ſail the courſe from the Berryhead to the Start Point is SWbW. diſtance 17 miles or near 6 leagues; if you keep 2 or 3 miles off ſhore, you will in ſailing this track have 20, 21, 22 or 23 fathom water, and you may paſs the Start Point in 23, 24 or 25 fathom water, 2½ or 3 miles from it, it flows off the Start in the offing 8½ hours, being go within the Start Point in the Channel, direct your courſe down Channel, but if you are taken by thick hazy weather or night time, before you have got far enough out to take a fair departure, to ſteer a proper Channel courſe, in that caſe I would run out,

into

The depth of water to go into to ſteer a Channel courſe.

into a proper depth of water, by which I would judge my diſtance from the land, and then ſteer a Channel courſe; in this caſe you may run into 42 fathom water, you will then be 4 leagues without the Start, and you may then ſteer a Channel courſe down Channel. The Eddy Stone bears from the Start Point W½S. diſtance 7 leagues, keep without 40 fathom, you need fear no danger from the Eddy Stone, 35 fathom carries you within the Eddy Stone.

Eddy Stone, its bearing and diſtance from the Start.

From the Start Point to the Lizzard.

A ſhip being off the Start and bound down Channel and is in 42 fathom water, the Start Point bearing about north, diſtance between 4 and 5 leagues, direct your courſe down the Channel, the courſe from the Start Point to the Lizard Point is WbS. diſtance 22 leagues, between the Start and the Lizard you will have ſoundings in the fair way from 40 or 42 fathoms off the Start to 43, 44, 45, 46, 47 to 48 or 50 fathoms: you will have 48 or 50 fathoms the Lizard bearing north, diſtance about 4 leagues. The Lizard bearing NbW. to NbE. diſtance 3 leagues, you will have 45 fathom water, keep without 40 fathom and you need fear no danger from the Eddy Stone. I have had 39 fathom water in paſſing by the Eddy Stone, within 3 miles of it, when it bore NbW. N. and NbE. the ſame diſtance and depth of water. It flows off the Eddy Stone, 8½ hours.

Soundings in the fair way.

Soundings near the Eddyſtone, with the flowing of the tide.

Remarks and Directions for a large Ship turning down Channel, between the Start and the Lizard with a contrary Wind.

A ſhip turning down Channel between the Start and the Lizzard.

The firſt thing to be obſerved is the wind, and to take care to ſtand on that tack the ſhip will ſtem the tide beſt, I mean the flood tide, which you are working againſt, and at high water to ſtand that way, that the ſhip will take the tide on the beam or Broadſide, which will ſet her to windward, theſe are obſervations well worthy the navigator's attention and conſideration, with every other thing that can facilitate the deſign he has undertaken, which is to get his ſhip out of the Channel with all poſſible diſpatch.

NOTATION. *I muſt here obſerve with reſpect to the flowing and ſetting of the Tides, that it is neceſſary to obſerve the following Remarks.*

Of the tides and the ſetting of them.

I have mentioned the Flowing of the Tides in the Offing at all the places as we have come down the Channel, which ſhews the time of high water at thoſe places, and as to the ſetting of the ſtream of the Tide in the Offing, and from one Head-land to another, the flood runs or ſets to the eaſtward, and the ebb to the weſtward, and the ſtream of the Tide runs or ſets nearly in the ſame directions or bearings, as the Head-lands bear from each other, ſo that the navigator will pleaſe to obſerve, that when he is turning againſt the tide, he ſhould take care to ſtand on that tack, that the ſhip will ſtem the tide beſt, and when the tide is in his favour, or ſetting to the windward, he ſhould ſtand on that tack, that the ſhip ſhould take the tide on her broadſide, which will tend greatly to his advantage. This conſideration ſhould ever be remembered when the ſhip is in a tide's way.

A ſhip off the Start.

Turning down Channel, the depth of water a ſhip may ſtand into both ways.

A ſhip being off the Start, in 40 or 42 fathom water, diſtance from the Start 4 or 5 leagues, and has a contrary wind: and is bound down the Channel; may ſtand to the ſouthward into 48 or 50 fathom, and when ſtanding to the northward, ſhe may ſtand into 42 or 41 fathom not to go into leſs, till ſhe is to the weſtward of the Eddy Stone; between the Start and the Lizard the coaſt forms a very deep bay which ſhips bound up or down the Channel are not to ſtand too far into; a ſhip in this track may ſtand to the ſouthward into 50 fathoms, and to the northward into 40 fathoms, or when to the weſtward of the Eddy Stone, ſhe may ſtand into 37 or 36 fathoms, and as a ſhip draws near the Lizzard in ſtanding to the northward, not to go into leſs than 45 fathoms, and when the ſhip ſtands to the ſouthward ſhe may ſtand into 50, 52 or 54 fathoms, and when ſtanding to the northward again, I will ſuppoſe her to fetch in with the Lizard Point, it bearing NbW. N. or NbE. diſtance 3 or 4 leagues, you will have ſoundings at 45 or 48 fathoms; it flows at the Lizard in ſhore 5 hours, in the Offing it flows 7 hours.

A ſhip being off the Lizard, bearings and depth of water.

I will ſuppoſe a ſhip to be got ſo far down the Channel, as to be abreaſt of the Lizard, it bearing north, diſtance about 4 leagues in 48 or 50 fathoms water, from whence ſhips generally take their departure; the Lizard's latitude is 49° 57′N. and longitude 5° 14′W.

The Lizard's Latitude and Longitude.

From the Lizzard to the ſouthernmoſt part of the Iſles of Scilly.

From the Lizard to the ſouthernmoſt part of the Scilly Iſlands, the courſe is W½S. diſtance 18 leagues, between the Lizard and Scilly, you will have ſoundings in the fair way from 50 fathoms, the Lizard bearing north 4 or 5 leagues to 53, 54, 56, 58, 60, 62, 64 fathoms. You will have ſoundings at 63 or 64, white ſand with broken ſhells, then Scilly will bear about north from you, diſtance 8 or 9 leagues, here you get into the Ocean. The latitude of Scilly Iſlands is 50° 6′N. longitude 6° 49′W. from London.

Courſe, diſtance, and ſoundings.

A ſhip off Scilly.

Neceſſary hints to be obſerved when a ſhip is got out of the Channel.

When a ſhip is got down the Channel, and is about to take her departure from the Lizard, Scilly Iſlands, or any other part of the land, it then lies with the judicious navigator to direct his courſe, ſo as to get ſea room as ſoon as he can. It ſhould be his endeavours to make all the weſting he can, and not regard making much ſouthing, for the following reaſons, Firſt, If he gets well to the weſtward, and the wind comes that way, which is moſt likely to be the caſe, he can then ſtretch to the ſouthward, and may be able to weather Cape Finiſterre, and proceed to the ſouthward on his voyage. Secondly, if the navigator ſhould not pay attention to the laſt mentioned remark to make all the weſting he can, but ſhould keep to the ſouthward and after having made much ſouthing, and the wind ſhould come to the weſtward, he is then hemmed in, in the Bay of Biſcay, perhaps it comes to be hazy weather, he is afraid to ſtand to the ſouthward, or to attempt to weather Cape Finiſterre, for fear he ſhould engage himſelf on a lee-ſhore, and be expoſed to much danger, from which he could not again diſengage himſelf. This I have known to have been the caſe with many, in which they have loſt much time, and have been in great anxiety, whilſt other ſhips, by making their weſting, have made their paſſage with great facility. This I would recommend to all navigators, to make their weſting as ſoon as they can, when going out of the Engliſh Channel, for the reaſons before-mentioned.

Reaſons given for the above hints.

My

My reaſon for mentioning this ſo particularly is, that I have known ſo many errors of this kind committed ſince I publiſhed the Second Edition of my Voyage to the Eaſt Indies, that I think it highly proper to mention it in this place, as an uſeful and neceſſary caution to be obſerved.

I muſt here beg leave to make a remark in this place, while I am ſpeaking of the Bay of Biſcay, of the unpardonable error or miſtake of the R———s Man of War, in the year 1780, who was going out with a great Convoy of Ships, both Eaſt and Weſt India-men. This Commander had not paid any attention to the navigation out of the Channel, nor to the Hints I have juſt mentioned, with reſpect to the navigation of a ſhip after ſhe gets out of the Channel, for, inſtead of making his weſting, or endeavouring to keep to the weſtward, which a prudent navigator would have done, he kept to the ſouthward, though he had a fair wind to run him to the weſtward as far as he wiſhed to have gone, but he kept to the ſouthward, and got far within Cape Finiſterre, while he was yet to the eaſtward of it, and where he met with our Grand Channel Fleet, who were cruzing in the Bay, and who were much ſurprized to ſee him ſo far within Cape Finiſterre with ſuch a Fleet and Convoy, bound abroad, and of ſuch conſequence to the Nation, in ſo precarious and ill judged a ſituation; this induced the Commanding Admiral, with his whole Fleet, to keep the R———s and her Convoy, Company for a conſiderable diſtance, till they were well to the weſtward of Cape Finiſterre, and then parted with them, and charged the Commander of the R———s to keep well to the weſtward, as the Combined-Fleet of France and Spain were out. Inſtead of obeying the Admiral's prudent advice, he kept to the ſouthward again, and fell in with the Combined-Fleet, and the whole of his Convoy were taken; the greateſt ſtroke of misfortune and National loſs that happened to us in the courſe of the War, another aggravation made it ſtill more inexcuſable in the Commander of the R———s, when he firſt ſaw the Combined-

An inſtance produced of the ill conſequence of Ship not attending to the hints before mentioned, to make all the Waſting they can when got out of the Channel.

The Combined Fleet of France and Spain.

Fleet, it was in the afternoon, or latter part of day ; towards the evening they counted nine ſail of the enemies fleet from the maſt-head* who were ſtanding weſtward, the wind was northerly, the R———s and Convoy were ſteering to the ſouthward, and the Enemies Fleet were to the ſouthward of him, conſequently all the diſtance he was from them was directly to windward, they were only ſeen from the maſt-head, if he had then hauled his wind to the weſtward with all his Convoy, as it was moderate weather, and carried ſuch ſail as his Convoy could have kept him company, in all probability he would never have ſeen any more of the enemy ; but inſtead of acting with ſuch prudence or caution, he was not at all alarmed, but ſteered the courſe he before was ſteering, and continued to ſteer that all night, and at break of day next morning found himſelf and Convoy in the middle of the Enemies Fleet. They were all taken, and himſelf in the R———s with difficulty eſcaped. This can hardly be called a miſtake or a blunder, but a perverſe piece of obſtinacy or ſelf-conceit, which produced ſo great a National loſs.

Remarks on neglecting to make weſting when got out of the Channel.

One remark more on the R———s miſmanagement, by neglecting to make her weſting when ſhe firſt got out of the Channel, and by keeping too much to the ſouthward, although ſhe had a fair wind ; by ſo doing ſhe got hemmed into the Bay of Biſcay between Cape Finiſterre and Uſhant, that had the wind come to the weſtward, ſhe could not have weathered any of thoſe places, but muſt have been drove deep into the Bay of Biſcay, where they muſt have remained during the continuance of the weſterly wind, and have been expoſed to great danger, both from their ſituation and the Enemy, who, on hearing they were ſo hemmed in, might have ſent out a force ſufficient to have captured the ſaid Convoy. This again proves the inattention of the Commander of the R———s, they were fortunate in meeting with their own Fleet, and having the wind eaſterly to run them out of the Bay of Biſcay to the weſtward of Cape Finiſterre, but we cannot but with regret lament the ſerious conſequences that happened afterwards.

Some

* Had the frigates been ſtationed a-head to look out, which is a very general precaution in ſuch caſes, the Combined Fleet would have been diſtinctly diſcovered before night, as there were a number of large ſhips ſeen from the maſt-head.

Some time afterwards another misfortune befel another Convoy nearly ſimilar to the R———s misfortune, but worſe, if worſe can be, which I ſhall beg leave to mention by way of ſhewing Seaman and Officer-ſhip, with reſpect to their conduct in their faithful diſcharge of their duty, which is as follows :

Some months after this three large Convoys ſailed from England for North America, viz. one for Quebec, one for New York, and one for Newfoundland; they ſailed nearly at the ſame time, but were not connected, or under the command of each other, and at that time our affairs were in a critical ſituation, from the unfavourable nature of things, and the Enemies Combined Fleet being at ſea, and in great force, it was therefore thought prudent to act with great caution and circumſpection, and I will ſuppoſe the track theſe Convoys were to ſail in, was prudently preſcribed or pointed out, to prevent their falling in with the Enemies Fleet; they accordingly ſailed, and each Convoy independent of the other, though in Company. The Quebec Convoy, under the command of a Captain of a Man of War; the New York Convoy, commanded by an Officer of the ſame rank, and the Newfoundland Convoy, under the command of an Officer of Superior Rank; let us ſee how thoſe Convoys were conducted, and whether the Captains, who had the charge of the Convoys for Quebec and New York, or the commander of the Convoy for Newfoundland, acted the moſt like Seamen and good Officers, or with the greateſt prudence and care, like honeſt men who ſhould act for the good of their country, independent of their private ſelf-intereſted views.

I have ſaid the Convoys ſailed in company and kept to the northward, as it may be ſuppoſed they were directed, and had got ſome diſtance to the weſtward, the wiſe and prudent Commanders of the Quebec and New York Fleets, kept to the northward, and purſued their voyage like Seamen and good Officers, and carried their Convoys ſafe to their place of deſtination. Theſe three Convoys were all together on a certain Day, and in the evening of the ſame day the Commander of the Newfoundland Convoy altered his courſe from WNW. it being the courſe the other

Convoys

Convoys were ſteering to the ſouthward, and of courſe ſoon parted company with them. Whilſt they continued the courſe they were before ſteering, the Newfoundland Fleet ſtood to the ſouthward all night with a freſh gale weſterly, and the next day in the morning it being freſh gales and hazy weather, they ſaw ſeveral ſail of ſhips to the ſouthward of them and at no great diſtance, who were ſtanding to the northward, this Commander gave chaſe to them, and made a ſignal for his Convoy to to follow him *. It being a freſh wind and hazy weather, the ſhips they ſaw were ſtanding to the northward, and this Commander with his Convoy were ſtanding to the ſouthward; he ſoon came up with the ſhips he was chaſing, but being blinded by ſome particular ideas, he thought he ſhould have nothing to do but to take as many St. Domingo or Martinico-Men as he judged proper, which he thought them to be, but he ſoon found himſelf miſtaken, and that he had run himſelf and his Convoy into the jaws of the Enemies Fleet of Men of War, who captured the whole of his Convoy, and himſelf with difficulty eſcaped, and went to the place of deſtination alone. This next to the R———'s loſs of her Convoy, was the ſecond great loſs the Nation met with during the War. How he accounted to the Nation for this miſtake I cannot ſay, but it was thought that he was highly blameable, though no enquiry was made concerning his conduct in this matter, which was thought by many very extraordinary.

I muſt here beg leave to obſerve the great difference in the conduct of the three Officers who commanded thoſe Convoys as before-mentioned, the Quebec and the New York Convoys, were under command of Captains, whoſe actions proved them prudent Seamen and good Officers, and who ought to be well thought of, and deſerve the thanks of

* It has been cuſtomary for Men of War who have the charge of a Convoy, when they ſee or fall in with ſtrange ſhips, and the Commander thinks proper to ſtand towards them in order to ſee what they are, he makes the ſignal for the Convoy to ſtand on, and ſteer the courſe they were before ſteering, whilſt he with great caution reconnoitres the ſtrange ſhips, taking care not to looſe ſight of his Convoy, this is by far more prudent than running his Convoy amongſt a fleet of ſtrange ſhips, without knowing what they were. This was an act of great imprudence.

of their Country: I ſhould like to dwell on the exemplary good conduct of thoſe Commanders; all I can write or ſay cannot exceed their merit; but I cannot ſay ſo much for the Commander of the Newfoundland Convoy, who was the cauſe of ſo great a National Loſs, his conduct requires another ſort of recompence or reward, very different from the other gentlemen before-mentioned. So much for Seaman and Officerſhip in different men. But any rational man would have expected the man of Superior Rank ſhould have acted with greateſt prudence, circumſpection, and care, which the event proves was not the caſe, but the contrary.

Cape Finiſterre.

A ſhip having juſt got out of the Channel, ſhe will endeavour to make her weſting as ſoon as ſhe can, ſo that if the wind comes to the weſtward, ſhe may be able to ſtand to the ſouthward and weather Cape Finiſterre, and proceed to the ſouthward on her intended voyage.

Directions for a Ship to proceed to the Southward.

I will ſuppoſe myſelf in a ſhip bound to India, or to the ſouthward, and being got to the ſouthward of Cape Finiſterre, I will proceed and direct my courſe, ſo as to get to the eaſtward of the Iſland of Madeira, and paſs through the Canary Iſlands between the Iſlands of Canaria and Teneriffe, and proceed to the ſouthward, taking care to keep to the eaſtward of Cape de Verde Iſlands. Here the variation is a ſure guide in latitude 17° N. being near the latitude of the Iſland of Sal, and 1° 26′ to the eaſtward of it, had 9° weſt variation; with 8° or between 8° and 9° degrees weſt variation, you may venture to ſail by them to the eaſtward night or day, being well aſſured with that variation, you are to the eaſtward of them.

Variation a ſure guide.

A Caution.

It has therefore ſurprized me, that any ſhip with ſuch a guide ſhould either ſplit on thoſe iſlands, or be wrecked on the Coaſt of Guinea, Cape de Verde, or Brazil; yet I have known a ſhip to paſs to the eaſtward of all thoſe Iſlands, and afterwards run a-ſhore to the weſtward of St. Auguſtine on the Coaſt of Brazil.

Remarks and obſervations in ſailing from the Canary to the Cape de Verd Iſlands in ſailing along the Coaſt of Africa.

I have known an Indiaman outward bound loſt on the Cape de Verde, two on the Cape de Verde Iſlands, one on the Iſle of May, and one on Bonaviſta, lately. All of them thought they were going right, but it is plain they were going wrong, and ran a-ſhore with all their ſails ſet,

without

without the leaſt apprehenſion of danger, or not ſo much as a good look out, which ſhews a great want of care and attention in ſuch thoughtleſs navigators, when there are certain and ſure guides to direct and keep them right. Firſt, if they are near the African ſhore, there are good ſoundings all along that Coaſt from the Canary Iſlands to Cape de Verd, if out of ſoundings, the variation is a ſure and ſafe guide, if carefully attended to, as I have before-mentioned; near the African ſhore you will have 11° weſt variation, near the Cape de Verd Iſlands to the eaſtward of them 8 degrees weſt variation, this is a ſure guide. The many times I have ſailed this track, I never loſt an hour's ſail, but always made the Cape de Verd Iſlands according to my expectation by my reckoning: as I have ſailed along in this track, I have ſeen the Spaniſh fiſhing boats or veſſels that came from the Canary Iſlands at anchor all along this coaſt, in 25 or 30 fathoms water, where they lay fiſhing, this proves that there are regular ſoundings all along this coaſt, when bound to the Cape de Verd Iſlands. I have always made it a point to make the Iſle of Sal; it is high land, and may be ſeen for 9 or 10 leagues in clear weather, and whether I was bound to the Cape de Verd Iſlands or not, I would make the Iſle of Sal, and take a freſh departure, and keep to the eaſtward of it, proceed to the ſouthward and croſs the Line, nearly in the meridian of St. Jago with 5° 30′W. variation, as mentioned in the former part of my Book.

Variation ſounding with Directions.

Before I quit the ſubject I am now upon, I muſt beg leave to mention and recommend what I myſelf have purſued, in which, as there is a certainty, ſo there is a ſafety, (which is), I would croſs the latitude of any iſland, rocks, ſhoals, or danger, that I thought myſelf near in the day time, and particularly in thick, hazy, or bad weather, and, if I could not do that before night, I would then tack and ſtand from the ſaid iſland, rocks, ſhoals, or dangers, whilſt it was dark, under an eaſy ſail, and would contrive it ſo, that the ſhip ſhould be nearly at day-light in the morning where ſhe was in the evening when we tacked and ſtood off from the apprehended danger; this method is ſurely a ſafe way of acting, when you are in any doubt in reſpect to your reckoning, it is better to looſe a few

One uſeful hint to be obſerved.

To croſs the Latitude of dangerous places in the day time; if that cannot be done, to tack and ſtand from them.

few hours ſail, than to looſe a ſhip and many mens lives. This is what, I believe, every prudent ſeaman would approve of, and take the hint, practiſe it, and improve upon it.

If a ſhip is bound to St. Jago, I have given a full deſcription of that iſland, and the manner of making it, with neceſſary remarks and obſervations, and the reaſon why ſhips, when bound to that iſland have miſſed it, with great inconveniency to themſelves; this you have in the Second Edition of my Book, publiſhed in 1766.

Reaſons given why a ſhip ſhould keep to the eaſtward when outward bound to India, or ſhips in general when bound to the ſouthward.

It may be aſked, why, if I was in a ſhip bound to India, I would keep to the eaſtward of Madeira, go through the Canary Iſlands, and keep to the eaſtward of the Cape de Verd Iſlands, and proceed to the ſouthward, as before-mentioned. The firſt reaſon I give is, that the time of the year that ſhips generally ſail for India is in the winter time, when the weſtern or Atlantic Ocean is continually in a foam, being conſtantly in agitation by violent ſtorms and tempeſts that prevail in thoſe ſeas at that ſeaſon of the year, and particularly near the weſtern Iſlands, this is a ſufficient inducement for an experienced navigator to keep to the eaſtward to avoid bad weather.

The ſecond reaſon why ſhips ſhould keep to the eaſtward is, that in this track you meet with more favourable weather, and will meet with more fair winds. From Cape Finiſterre to the Streights mouth, or entrance of the Mediterranean Sea, the winds at this time of the year are moſtly between the north and eaſt, and when to the ſouthward of the Streights mouth between that and Madeira, the winds may be ſaid to be generally to the eaſtward, and but ſeldom to the weſtward, and when it happens to come to the weſtward it is not of long continuance.

The third reaſon why a ſhip ſhould keep to the eaſtward, if the firſt and ſecond holds good the third muſt of courſe hold equally good; as plain demonſtration actually proves it evident and clear, that a ſhip muſt facilitate her paſſage by keeping to the eaſtward whe e ſhe has fair weather, and a fair wind; this proves the propriety and utility of keeping to the eaſtward, when outward bound to India, which I would

 particularly

particularly recommend to navigators in general, and when bound to the ſouthward.

The uncertainty of ſhips reckoning on the Ocean.

And as I have elſe-where ſpoke of the uncertainty of ſhips reckonings in the India Seas and in the Ocean in general, and have mentioned ſeveral reaſons likely to produce this error, ſuch as the length of the half minute glaſs, the meaſurement of the log line, and the manner of heaving the log, which ſhould be carefully hove every hour by a judicious officer, who knows what allowance ought to be made, ſince the log was hove laſt; but the greateſt error of all is, the manner of working, what is called a day's work, which is done every day at noon, to find the courſe and diſtance, difference of latitude and departure the ſhip has made for the laſt 24 hours, by which is found the difference of longitude, latitude in and longitude in, and the bearings and diſtance of the land laſt ſeen, &c. I ſhall endeavour to ſhew that navigators in general are not ſo attentive to this ſerious buſineſs of working a day's work, or keeping a ſhip's way for 24 hours at ſea as they ſhould be, which is of more conſequence, and requires more ſerious conſideration than navigators in general are willing to beſtow upon it. In the firſt place, it requires the judgement, care, and circumſpection of the moſt experienced ſeaman, to make proper allowance in working a day's work for lee-way, variation, &c. according to the ſail the ſhip has had ſet upon her, or that ſhe has carried at the different times of theſe 24 hours, whether ſhe has been cloſe upon a wind, or going large, or if ſhe has been laying too, and under what ſail, and if a great ſea, how it has affected the ſhip's ſailing with reſpect to her courſe and diſtance? Theſe are things well worth the ingenious navigator's higheſt conſideration, and how to make juſt and proper allowance for them, is, or ſhould be, the ſtudy of every ſeaman, that has any thing to do with the navigating a ſhip; as for inſtance, if there has been a great ſea, and it has been following the ſhip, it will increaſe or lengthen her diſtance very conſiderably; if the ſhip has met the ſea, or ſhe has been ſailing againſt the ſea, it will impede the ſhip's way, and conſiderably ſhorten her diſtance; if the ſea takes the ſhip on the beam or broadſide, it will heave her conſiderably

The cauſes of the uncertainty of ſhips reckonings at ſea.

conſiderably to the eaſtward or weſtward, northward or ſouthward of her courſe ſteered in 24 hours, for which there ſhould be proper allowance made in working the day's work, which I ſhall hereafter ſhew, and which I have conſtantly made my practice to allow for.

Cautions recommended to the navigator.

The firſt thing I ſhall recommend to the navigator's conſideration and attention is, when he finds the ſhip's run, or dead reckoning, does not agree with his obſervation at noon, which it frequently does not, how he is to judge or know whether the error lies in the courſe or in the diſtance, or whether the error may not lie in both? This requires both judgement and experience to determine, this I ſhall ſpeak upon and endeavour to illuſtrate in many examples in the following chapter.

Allowance to be made for the heave of the ſea, &c.

The firſt thing to be conſidered is, to make a juſt allowance in the courſe ſteered for the variation; the ſecond thing to be conſidered is, to make a proper allowance for lee-way; and the third conſideration is, how the ſea has affected the ſhip in her ſailing for the 24 hours, &c. as before-mentioned: if the ſhip has been ſailing againſt the ſea, it will ſhorten her diſtance; if the ſea has been following the ſhip, it will lengthen her diſtance; if upon the beam or broadſide, it will heave the ſhip conſiderably to the eaſtward or weſtward, to the northward or ſouthward of the courſe ſteered; this ſhould be well conſidered, and alſo what ſail the ſhip has had ſet at different times in the 24 hours, by which proper allowance is to be made.

Lee-way to be allowed according to the ſail a ſhip has ſet upon her, or according to the way a ſhip makes through the water, viz. if a ſhip is a heavy ſailer, ſhe will make the more lee-way, if the ſhip is a quick ſailer, or goes faſt through the water, ſhe will make leſs lee-way, all this is left to the judgment of the navigator, which he ſhould well conſider, and leaſt ſome navigators, and particularly young men, who may not have had experience enough to know how to make allowance for lee-way, under every circumſtance that may happen to a ſhip, I ſhall in this place mention the proper allowance to be made for lee-way, according to the ſail the ſhip has ſet upon her, when cloſe hawled upon a wind in every kind of weather, viz.

Allowance to be made for lee-way in every kind of weather.

If a ſhip is upon a wind, with all her ſails ſet in fair weather, with a ſmooth ſea, allow one point lee-way. If it comes to blow freſh, and the ſea riſes, and you are obliged to take in the ſmall ſails, allow one point and a quarter for lee-way. Under ſingle reefed top-ſails, allow one point and an half for lee-way. Under double reefed top-ſails, allow one point three quarters; or if a large ſea, two points for lee-way. Under treble or cloſe reeft top-ſails, allow two points and a quarter; or if a great ſea, two points and an half for lee-way. If a ſhip is put under her courſes, allow three points; if a great ſea, allow three points and a quarter, or three points and an half for lee-way. The ſhips way through the water to be conſidered in making the allowance for the lee-way, if the ſhip goes quick through the water ſhe will make leſs lee-way.

Allowance to be made for a ſhip's drift when laying too under a main-ſail or a mizen.

If the ſtorm increaſes, and a ſhip is put to the neceſſity of lying too under a main-ſail, or main-ſail and mizen, it is ſuppoſed the ſhip will drive or make her drift about 6 points from the middle point, ſhe comes up too and falls off from, or two points before the lee beam. If a ſhip lies too under her mizen only, it is ſuppoſed ſhe will make her courſe, or drift not more than one point before the lee beam under a main-ſail, at the rate of two miles and an half, or two miles and $\frac{3}{4}$ $\mathscr{P}$ hour, or under a mizen, at the rate of 3 miles $\mathscr{P}$ hour in a ſtorm.

Remarks on a ſhip's laying too under a main-ſail or a mizen in a ſtorm.

I muſt here take notice and make ſome remarks upon a ſhip's laying too under a main-ſail, or mizen, at ſea in a ſtorm, with reſpect to the management of a ſhip in ſuch a ſituation, much depends on the ſkill and experience of the Seaman and Navigator in this buſineſs, and very often not ſufficiently attended to, for want of capacity or judgement and a right underſtanding of the matter; which I ſhall here endeavour to explain, and ſhew the ill conſequences that may happen by not acting with judgment on ſuch occaſions.

The practice of putting the helm a lee when the ſhip is laying too, diſapproved of, with reaſons for it.

When a ſhip is laying too under a main-ſail or a mizen, it is but too frequently the caſe, the helm is ordered to be put down a lee, and laſhed there, and continues there as long as the ſhip is laying too. This is very inconſiſtent with common ſenſe, reaſon, and experience, and is

attended

attended with danger to the ſhip, to the rudder, and to the tiller, which I ſhall now endeavour to prove, viz.

When a ſhip is laying too in a ſtorm, and the helm is put a lee, a ſhip comes up and falls off 2½ or 3 points of the compaſs, the helm being put a-lee will make her come up and fall off more than ſhe otherwiſe would do, and bring her ſo near the wind as to lift or ſhake the main-ſails ſo much, that it might ſplit the ſail, and at the ſame time the ſhip gets ſtern-way, and by the helm's being a-lee *, makes her fall broad off in the trough of the ſea, by which the ſhip muſt labour much, and run the riſque of rolling away her maſts, or by her exceſs of rolling muſt ſtrain and tear her rigging to pieces, and alſo ſtrain and injure the ſhip's hull, and as the ſhip falls off with freſh ſtern-way, and ſhe ſhould meet with a reſiſting ſea to ſtrike her abaft, may ſtave in all her ſtern; this I have known too often to happen. The next conſideration is the rudder, when a ſhip is falling off with a freſh ſtern-way in a great ſea, what a great ſtrain is laid on the rudder and on the pentles and gudgeons of it, and particularly on the tiller, by an unlucky ſea ſtriking the rudder at that time, may very much damage it, and very liable to break the tiller, and by ſuch an accident endanger the loſs of the rudder, which has happened, and conſequently endanger the ſhip and all in her. I therefore recommend the following method to be put in practice, when a ſhip is laying too under a main-ſail and mizen, which I am ſure is leſs liable to accidents, is ſafer, and conſequently not ſo dangerous to the ſhip, her maſts, rigging, hull, rudder, tiller, &c.

The dangerous conſequences of putting the helm a lee when a ſhip is laying too.

I muſt here beg leave to mention a ridiculous cuſtom of laying a ſhip too under a main-ſail, or a main-ſail and a mizen, in a ſtorm, with the head yards ſquare, and the fore-ſail hanging looſe in the brails, which has a very bad effect upon the ſhip when ſhe comes to the wind, as high as ſhe will come, the head yards being ſquare, and the fore-ſail hanging looſe in the brails, gives the ſhip freſh ſtern-way, and the helm being

An improper method of laying a ſhip too, juſtly repreſented.

* The ſhip having ſtern-way the water takes the lee-ſide of the rudder, and makes her fall broader off.

being a lee, the water takes the back or lee ſide of the rudder, and makes the ſhip fall broad off into the trough of the ſea, and labour exceſſively, and expoſes her to great danger; to prevent which pleaſe to obſerve the following paragraph.

The proper method of laying a ſhip too in a ſtorm, and how the helm is to be put when the ſhip is in that ſituation.

I will ſuppoſe a ſhip laying to under a main-ſail, or a main-ſail and mizen in a ſtorm at ſea as before-mentioned; in this caſe, I would furl the fore-ſail, and, inſtead of putting the helm a-lee, I would put the helm in midſhips, or not more than half a turn of the wheel to leeward, unleſs I found the ſhip required it to be put a little more a-lee, and would brace all the yards up to the wind, which will give the ſhip a little head-way, by which means you will find the ſhip will not fall ſo broad off, nor will ſhe come up ſo high or ſo near the wind as to ſhake or lift the weather leech of the main-ſail, ſhe will not roll or labour ſo much as before, and will make her drift a point more before the beam than ſhe did in the way of laying too, as before-mentioned; this way of acting is ſafe and eaſy for the ſhip, and more rational and reconcileable to common ſenſe and reaſon, I therefore would recommend it to lay a ſhip too in the manner above-mentioned.

The ill conſequences of putting the helm hard a lee, or hard a weather, in a ſtorm, with the picture of the diſtreſs of a ſhip by the tiller breaking in the rudder head.

Before I quit this ſubject, I muſt ſay ſomething more about the helm, as I have known ſo many misfortunes happen from the miſmanagement of it, having been in two ſhips that loſt their rudders in bad weather at ſea. I have ſpoken of the danger of putting the helm a-lee, and keeping it ſo in bad weather, I muſt now obſerve, it is equally dangerous to put it a-weather, and keep it ſo in a ſtorm, but when people are ſurpriſed and frightened by any ſudden alarm of approaching danger, and wiſh to wear ſhip in order to eſcape or avoid the danger, they, without conſidering the ſituation the ſhip is in, ſhe is laying too in a ſtorm without any way through the water; in this caſe, it is no matter how the helm is, it can have no effect upon the ſhip, until ſhe has head-way through the water. I muſt here beg leave to draw a picture of a diſtreſs of a ſhip in the ſituation I have juſt mentioned, a ſhip laying too in a ſtorm, very hazy weather, they ſee breakers, and ſoon after the land on the lee-bow, at but a ſmall diſtance, the ſea mountains high, in this terrible ſituation they are thrown into the utmoſt conſternation by ſurprize and horror,

they

they are deprived of ſenſe, reaſon, or reflection, in this ſituation, the helm is put a-weather, and an attempt made to wear the ſhip, but all in vain, away goes the tiller, it breaks in the rudder head. They then have recourſe to their rudder, pendants, and tackles, to wear the ſhip by them, as ſoon as they are bouſed tight, off comes the iron ſtrap from the back of the rudder, that the rudder pendants are fixed to, the rudder tearing with much violence from ſide to ſide, enough to tear out the ſtern poſt, till at length it works itſelf out of the pintles and gudgeons, and breaks away from the ſhip, after tearing the braces of the gudgeons from the ſtern poſt.

A ſhip in diſtreſs obliged to anchor in a ſtorm in a lee ſhore not far from the breakers with her miraculous eſcape from danger.

In this dreadful ſituation, to prevent the ſhip being drove among the breakers, the ſhip is obliged to anchor with the loſs of maſts and rudder, in this ſituation the ſhip could not have rode long, but it pleaſed God ſoon after the ſhip anchored, the ſtorm abated, and the wind ſhifted from right on the ſhore to blow along the ſhore, and ſoon after the winds ſhifting, the cables parted, and the ſhip caſt with her head off ſhore, got up ſmall ſpars for maſts and top-gallant-ſails on them for ſails, and ſo got off the land in a miraculous manner.

Remarks upon a ſhip's ſailing large, or with the wind on her quarter in ſtrong winds and a great ſea.

Having dwelt long upon the ſubject of the helm, and the uſe and conſequence it is of, and have mentioned the injudicious uſe that is often made of it, e're I quit the ſubject of the helm, I muſt beg leave to make one remark more upon it, which is, when a ſhip, I mean a lofty ſhip, is in the ocean ſailing from the wind large, or with the wind upon her quarter, in ſtrong winds and a great ſea, and the ſhip is in a manner flying through the water, and frequently a heavy ſea takes her upon the weather quarter, and heaves her too againſt her helm a point or two, I would here beg leave to remind the ſeaman and navigator, what a great ſtrain there is upon the rudder at this time, and particularly upon the tiller and tiller rope, and I ſhould ſuppoſe the ſeaman, when he conſidered this, would endeavour to eaſe the ſhip as much as poſſible, by taking in his after ſails; in ſo doing he will find the ſhip ſteer much eaſier, and ſhe will undoubtedly go faſter, for the helm being moſtly a-weather,

a weather, or nearly ſo, muſt certainly impede the ſhip's velocity in her ſailing through the water.

Remarks upon luffing a Ship up to the Wind, when ſailing upon a Wind, and meeting with a great reſiſting Head-Sea.

The propriety of luffing a ſhip to the ſea when ſailing upon a wind.

It has always been the cuſtom among ſeamen in general, when a ſhip is ſailing upon a wind in rough weather, and the ſhip is going to meet with a Head-Sea, to eaſe down the helm to leeward, to bring the ſhip's bow to the ſea, and to eaſe her into it. This is undoubtedly a proper method or way of acting, as the ſhip's bow being the ſtrongeſt part, and therefore moſt proper to meet or make reſiſtance againſt the ſea, and the helm being eaſed down to leeward, certainly eaſes the ſhip more gently or more gradually into the ſea, which is a proper proceeding, and has a very good effect; and an experienced ſeaman would know, if lying in his bed, whether the helm had been eaſed down to leeward or not, by the ſhock of the ſhip when he ſtrikes the ſea; but though this method is ſo proper to be put in practice when a ſhip is ſailing upon a wind, yet it will not hold good when a ſhip is ſailing large, or from the wind, with the wind on the beam, &c. a reverſed method muſt then be practiſed.

Remarks upon a Ship ſailing large, or with the Wind upon the Beam in a Rough Sea.

The ſame method which held good, and was practiſed upon a wind, will not now do, things are reverſed. The ſhip muſt not be luffed up to meet the ſea, for the following reaſons. Firſt, the ſhip is going from the wind, and is going quick through the ſea, ſhould you attempt to luff her up to meet the high ſea, you will plunge her ſo deep into it, that it might prove very dangerous both to the ſhip and her maſts, therefore that method ſhould be carefully avoided, and another method

The impropriety of luffing a ſhip to the ſea when ſailing large.

put

put in practice, viz. when a ſhip is ſailing large, or with the wind upon the beam, and it happens that you meet with a reſiſting high ſea, in that caſe the helm muſt be put a-weather, in order to turn the ſhip's head from the ſea, ſhe will then run from it inſtead of plunging herſelf into it; this is by far the moſt prudent or rational way of acting, which good and experienced ſeamen are ſenſible of. But to luff a ſhip to the ſea, when ſailing large, or with the wind upon her beam, would be raſh and inconſiderate, and might be attended with great danger indeed, and which I have known happen to inconſiderate and inexperienced ſeamen, through their want of proper attention.

The propriety of turning a ſhip's head from the ſea when ſailing large.

I muſt here make one more obſervation, or one more very neceſſary remark with reſpect to working a ſhip when turning to windward, or at any other time when the ſhip is to tack or put about, either at ſea or ſailing coaſt ways, in pilot waters or otherways. Firſt, the ſhip is upon a wind in ſmooth water, with all her ſails ſet in moderate weather, when the helm is put a lee it is natural to ſuppoſe the ſhip will ſtay or come about with proper management, but if there is a freſh gale, and a chopping ſea, there requires ſome more management to put a ſhip about or tack her; for the want of attention I have known ſhips to miſs ſtays, and ſometimes in narrow waters near the ſhore, I have known a ſhip to miſs ſtays, and had not room to wear, the ſhip was obliged to come to an anchor with all her ſails out in great confuſion, which might have been prevented by a proper attention; this too often happens by keeping the ſhip hankering in the wind, or keeping her too near the wind, by which means ſhe has not proper way through the water, to make her feel or anſwer her helm; by this ſhe miſſes ſtays, as before mentioned, and is put in confuſion, I therefore would adviſe the ſeaman to take care to keep proper ſail upon the ſhip, to keep her with a good full ſail, to give her freſh way through the water, and there is no doubt with proper management, but the ſhip will ſtay or come about if properly attended to. A ſhip may be compared to a horſe with a judicious rider on his back, by good management ſhe will do any thing, but with

Some neceſſary remarks requiſite to be obſerved in tacking a ſhip or putting her about.

bad management ſhe will do nothing, nor will the horſe with an injudicious rider.

I muſt here beg leave to relate a matter of fact, with reſpect to what I have ſaid in the working or management of a ſhip, which will ſufficiently prove how differently ſhips act under the management of different officers, and that ſhips, like men, often get good or ill characters without deſerving them, or without any good grounds or reaſons given for what is ſaid of them. I ſailed two years in his Majeſty's Ship G . . . n, was then removed into his Majeſty's Ship E . . . . h, in which I ſerved five years, we changed ſhips, Captains, Officers, and ſhips companies; the character of each ſhip, with reſpect to her ſailing, working, and her trim, was left in each ſhip in writing for the guidance of the Commanders and Officers.

A ſhip's character.

Theſe two ſhips, characters, or qualifications, were almoſt oppoſite, or quite different to each other; the G . . . n was reported to ſail pretty well, work well, was quick in ſtays, ſeldom or never miſſed ſtays, but was ſlow and long in wearing, and ſteered well in general. She carried her helm weatherly upon a wind.

A ſhip's character.

The E . . . . h's character was, that ſhe ſailed very well, but was ſlack in ſtays, frequently miſſing ſtays, even in moderate weather, but wore quick in general, ſhe ſteered well, but rather carried a ſlack helm upon a wind.

A diſplay of the management of working two ſhips under different officers, by which is ſhewn that the working a ſhip does not depend ſo much upon her qualities as upon the judgment of the ſeaman.

Thoſe two ſhips were five years in company, being on ſervice together in India, and you may ſee from what follows how the ſhips qualities were changed, the Officers of the G . . . n carried her qualities into the E . . . . h, and the E . . . . h's Officers carried her qualities into the G . . . n. The E . . . . h during that long ſervice, ſeldom or ever miſſed ſtays, indeed ſhe always ſtayed in all kinds of weather, when a ſhip could be expected to ſtay. The G . . . n ſtayed badly, very frequently miſſed ſtays, and I have ſeen her miſs ſtays twice in three times in fine weather with all her ſails ſet and ſmooth water, which was ſurprizing to ſee; this ſhews that in the working a ſhip there lies more in the judgment of the ſeaman than in the quality of the ſhip, by which

ſhips

ſhips get bad characters undeſervedly. This ſhould make every ſeaman induſtrious to acquire the knowledge of working a ſhip, which is very material for a ſeaman to know, and none more uſeful or of greater conſequence to himſelf and thoſe about him.

Hints reſpecting the working a day's work at ſea.

As I have already ſpoke of the many errors that a ſhip's reckoning is liable to, I ſhall now ſpeak more fully of the ſaid errors, and ſhew how in ſome meaſure theſe errors may, in many reſpects, be prevented. In the firſt place, I would have the navigator to conſider when he is working his day's work, which is the ſhip's run for 24 hours, and he finds the ſhip's run to differ much from the obſervation or latitude in at noon. After he has made all reaſonable allowance for variation, lee-way, heave of the ſea, &c. &c. It is then he is to conſider maturely where the error lies, whether in the courſe or the diſtance, or whether the error may not be in both, or whether the error lies more in the courſe, or more in the diſtance, and whether it wholly lies in the courſe or in the diſtance; this is a matter which concerns him much to know, and for the navigator's direction, I ſhall endeavour to explain to him, in a manner I hope will prove to his advantage and improvement.

Obſervation.

A ſhip ſailing on a meridian.

Firſt, if a ſhip is ſailing near a meridian, that is to ſay, upon the ſouth or north point of the compaſs, and all allowance has been made for variation, leeway, heave of the ſea, &c. the error muſt lie wholly in the diſtance, ſo that the latitude obſerved differs from the ſhip's run; that is, the difference of latitude by obſervation is greater than the ſhip's run, the diſtance muſt be lengthened till it agrees with the obſervation, if the difference of latitude obſerved is leſs than the ſhip's run, in that caſe the diſtance muſt be ſhortened, as the error is ſtill in the diſtance.

Obſervation.

A ſhip ſailing on two points.

Secondly, if a ſhip is ſailing two points on either ſide of the meridian point, that is to ſay, SSW. or SSE. or on their oppoſite points, and finds the reckoning and obſervation diſagree, that is, the difference of latitude by obſervation is greater than the ſhip's run will give, the error muſt be moſtly in the diſtance, though ſome ſmall error may be in the courſe, which may be allowed one quarter of a point to the ſouthward, and the diſtance muſt be lengthened to bring the ſhip's run to agree with the

obſervation, but if the diſtance or difference of latitude by obſervation be leſs than the ſhip's run, then the diſtance muſt be ſhortened to bring the ſhip's run to the obſervation. I will ſuppoſe the ſhip ſteering SSW. in that caſe I would allow the courſe one quarter of a point to the weſtward, and ſhorten the diſtance till the run and obſervation agreed, as it is ſuppoſed the navigator before this has given every allowance for variation, lee-way, heave of the ſea, &c. and every other allowance that ought to be made.

Obſervation.

A ſhip ſailing between 3 and 5 points.

Thirdly, if a ſhip is ſailing between three and five points, that is to ſay, between the SWbS. and SWbW. or between the SEbS. and SEbE. or their oppoſite points. A ſhip ſailing on thoſe points or between them, is moſt likely to produce the greateſt error in ſailing, and conſequently the greateſt error in the ſhip's run and reckoning, particularly if the ſhip's run in 24 hours is great. I therefore ſhall endeavour to ſhew the dangerous errors that may be made in working a day's work, when the run is great, and the ſhip has been ſteering between the points before-mentioned, between three and five points of the compaſs; one quarter of a point in the courſe in a great run, will make a very material difference in the eaſting or weſting, and of courſe a great error in the longitude, a great error may be made in ſailing on three points SWbS. a greater error may be made in ſailing on four points SW. and ſtill a greater error in ſailing on five points SWbW. or their oppoſite points, ſo that the ingenious navigator ought to be very careful to guard againſt the errors here alluded to.

Obſervation.

A ſhip ſailing on three points.

Fourthly, if a ſhip is ſailing on three points from the meridian, that is to ſay, SWbS. or SEbS. or their oppoſite points, and the run is great, ſuppoſe 200 miles, and the navigator has made every allowance for variation, lee-way, or a large ſwell or ſea following the ſhip or coming againſt her, by taking her right a-head, or on either ſide on the beam, and ſuppoſed to heave the ſhip ſeveral miles to the northward, or the ſouthward, eaſtward or weſtward, as the navigator ſhall think proper to allow, and after all this he finds his obſervation and the ſhip's run not to agree, but the difference is very conſiderable, here is the nice point for him to determine whether the error lies in the courſe or diſtance, or

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in both, or whether more in the courſe, or more in the diſtance. If the difference between the obſervation and ſhip's run is great, it will puzzle him the more. In this critical juncture, I will ſtep in to his aſſiſtance, and give him my opinion as an old ſeaman and experienced navigator, viz. if his obſervation is a-head of the ſhip's run, and he thinks the courſe made good is SWbS. or SEbS. or their oppoſite points, in that caſe I would allow the courſe one quarter or one half point to the ſouthward, and lengthen the diſtance till I brought the ſhip's run to agree with the obſervation, for this reaſon, the error lies more in the diſtance; than in the courſe, for which reaſon I allow only one quarter or half a point in the courſe, and the reſt to be made up in lengthening the diſtance; this is what I call dividing th e error, and of courſe muſt be the ſafeſt way of acting; therefore, was you to allow the error in the ſhip's run to be wholly in the courſe, you would plainly ſee how it would increaſe or decreaſe your departure, and how much more it would increaſe or decreaſe your difference of longitude in a run of 200 miles for 24 hours, in a high latitude; this is a matter well worth a navigator's attention. See if the whole of the error was allowed to lie in the courſe, what a difference it would make in the difference of longitude 12 miles in a 24 hours run, and what error that muſt produce in the courſe of a paſſage where the diſtance of the place ſailed from, and the place bound to is 1000 leagues, and the error ſtill more liable to be increaſed, if the ſhip ſhould happen to be ſailing in a high latitude, either north or ſouth, and if the error was ſuppoſed to be allowed wholly in the diſtance, it would produce an error ſtill greater, but if the latitude by obſervation is leſs than the latitude by the ſhip's run, in that caſe, if he thinks the courſe made good, with the allowance of variation, &c. &c. is SWbS. or its oppoſite point, and he finds the difference between the obſervation and the ſhip's run is conſiderable or great, in that caſe I would allow the courſe a quarter or one half point to the weſtward, and would ſhorten the diſtance, until I brought the ſhip's run to agree with the obſervation, for the before-mentioned reaſons. The error lies more in the diſtance than the courſe, and for that reaſon I would only

allow

allow one quarter or one half point in the courſe, and the diſtance to be ſhortened as above-mentioned.

Obſervation.

A ſhip ſailing on four points.

Fifthly, I will ſuppoſe a ſhip ſailing on the fourth point from the meridian SW. or SE. or their oppoſite points, and the run is great, ſuppoſe 200 miles, as before-mentioned, and I will ſuppoſe the navigator has made, according to his judgment, every allowance for variation, lee-way, or the heave of the ſwell or ſea, as before-mentioned, and after all this the navigator ſhall find the ſhip's run and obſervation not to agree, but the difference very conſiderable, either more or leſs, here he is again puzzled how to determine where the error lies, whether in the courſe or in the diſtance, or in both, or in which the error is moſt likely to be, for this is a more critical point to ſail on, than the points before-mentioned, therefore requires more care and attention to decide upon it than before, I ſhall here again give him my opinion; if his obſervation be a-head of the ſhip's run, and he thinks his courſe made good, with every allowance of variation, &c. SW. or SE. I will ſuppoſe the courſe SW. in that caſe I would lengthen the diſtance, until I brought the ſhip's run to agree with the obſervation, for this reaſon, the error is moſt likely to be in the diſtance, and it would be dangerous to alter the courſe any way, as in ſailing on this point one quarter of a point of the compaſs makes a very material difference in the departure, and much greater in the difference of longitude, if the run is great, and the ſhip is ſailing in an high latitude, either north or ſouth, but if the difference between the obſervation and the ſhip's run is very great, ſome allowance may be made in the courſe, if the obſervation is greater than the ſhip's run, to allow the courſe one quarter of a point to the ſouthward, and lengthen the diſtance till the run and obſervation agree: but if the obſervation is leſs than the ſhip's run, then to allow the courſe one quarter of a point to the weſtward, and to ſhorten the diſtance until the run and obſervation agree.

Obſervation.

A ſhip ſailing on the fifth point

Sixthly I will ſuppoſe the ſhip ſailing on the fifth point from the meridian, that is to ſay, on the SWbW. or SEbE. or their oppoſite points, and the run is great, ſuppoſe 200 miles, as before mentioned, and I will

will ſuppoſe the navigator has made to the beſt of his judgment every allowance for lee-way, variation, and the heave of the ſwell or ſea, as before mentioned; and after all this the navigator ſhould find the ſhip's run and his obſervation not to agree, and the difference is found to be very conſiderable, more or leſs, here he is again at a loſs how to determine where the error lies, whether in the courſe, or in the diſtance, or in both or in which the error is moſt likely to be, for this is ſtill a more critical point to ſail on, than thoſe points before mentioned, therefore requires more care and attention to decide upon it than before, as an error in the courſe will make a greater error in the longitude than in any of the before mentioned points, and therefore ſhould be more maturely conſidered and judiciouſly corrected; in this caſe I will again give the navigator my opinion, which is, that the error muſt be more in the courſe than in the diſtance, and therefore if the difference between his obſervation and the ſhip's run be conſiderable, and the ſhip is ſteering on the SWbW. point of the compaſs, and the difference of latitude by obſervation is greater than the ſhip's run, in that caſe I would allow the courſe one quarter, one half, three quarters, or a point to the ſouthward, to bring the obſervation and ſhip's run to agree, but if that allowance in the courſe would not make the ſhip's run and obſervation agree, I would lengthen the diſtance till they did agree; this is, as, I have before ſaid, dividing the error. And again, the ſhip is ſtill ſuppoſed to be ſteering upon the aforeſaid point, SWbW. and the navigator has made all allowance for variation, lee-way, &c, and he ſhall find the ſhip's run and obſervation not to agree. In this caſe I will again give the navigator my opinion, which is, that the error muſt be more in the courſe than the diſtance, and it is found by obſervation, that the difference of latitude is leſs than by the ſhip's run; in that caſe I would allow the courſe one quarter, one half, three quarters, or a point to the weſtward, to bring the obſervation and ſhip's run to agree, but if that allowance in the courſe will not make the ſhip's run and obſervation agree, in that caſe I would ſhorten the diſtance till they did agree; this is, as I have before ſaid, dividing the error.

Seventhly

A ſhip ſteering on the ſixth point.

Seventhly, if a ſhip is ſteering on the ſixth point from the meridian, or between the ſixth and eighth point of the compaſs, WSW. WbS or W. or their oppoſite points, this is ſteering ſo near a parrallel, it is plain if the obſervation and ſhip's run do not agree, the error muſt be in the courſe, therefore the allowance muſt be made in the courſe $\frac{1}{4}$ $\frac{1}{2}$ $\frac{3}{4}$ or a point to the ſouthward or weſtward, until the run and obſervation agree. I will ſuppoſe the ſhip ſteering WSW. and that all proper allowances are made for lee-way, variation, heave of the ſea, &c. with this one obſervation, if it ſhould happen that there is a large ſwell or ſea following the ſhip, in that caſe the diſtance may be lengthened, as the navigator may judge it proper, viz. from 6, 8 or 10 miles, to 15, 20 or 24 miles in 24 hours, or if the ſwell or ſea be againſt the ſhip, that is to ſay, it takes the ſhip a-head, or nearly ſo, which will much impede her way through the ſea; in that caſe, the diſtance ſhould be ſhortened in the ſame proportion that it was lengthened in the laſt mentioned caſe, or as the judgment of the navigator may think proper to allow.

A ſhip ſteering near a parallel.

Allowance to be made for the heave of the ſea, either for or againſt a ſhip.

As I have elſewhere mentioned the uncertainty of ſhips reckonings when in the Ocean, on account of the extraordinary currents and motion of the ſea, which takes its riſe perhaps at a great diſtance from that part of the Ocean where the ſhip is (by the force of wind or current of air that firſt gives its motion) which is the cauſe of ſetting the ſhip to the northward, ſouthward, eaſtward, or weſtward of her courſe ſteered; this is the principal cauſe of the difference between the ſhip's run and the obſervation, which I have lately been ſpeaking of, and ſhould be obſerved with great care and attention, and ſhall here endeavour to prove from my own experience, how careful the navigator ſhould be in paying the greateſt attention to his day's work. It may happen you may be ſailing upon the WSW. point of the compaſs, and your diſtance by the ſhip's run is conſiderably great, from which you will expect to have made ſeveral miles ſouthing, but on having an obſervation (contrary to your expectation) you find the ſhip has made as many miles northing, as you expected to have made ſouthing, and you will

The ſet of currents, allowance to be made for them in the day's work.

The cauſe of currents.

will be obliged in your day's work to carry your courſe from WSW. or WbS. to WbN. or WNW. you muſt ſtill preſerve your diſtance run by log, after you have made all allowance you can, for variation, lee-way, &c. This ſhews you the effect of currents in the ocean, and how careful the navigator ſhould be to obſerve them, as they are ſo apt to miſlead and deceive him in his reckoning.

As I have dwelt long upon this ſubject, and have endeavoured to ſhew what allowance may be made in working a day's work, when a ſhip is ſailing upon any point of the compaſs, by which the navigator may correct his reckoning every 24 hours, according to his obſervation, I ſhall now proceed to give him my opinion how to correct his reckoning when he has been ſeveral days without an obſervation, and it may happen the ſhip's run may be very great during the ſeveral days that he has not had an obſervation; the ſhip may have run many hundred miles, and when he gets an obſervation he finds his reckoning and obſervation differ very much, it then requires the ſkill, experience, and judgment of the ſeaman, and ingenious navigator, to correct a reckoning when they have not had an obſervation for three, four, or five days, and the ſhip's run has been great for that time. A great and dangerous error may be made in correcting the reckoning, I mean in the longitude, I therefore ſhall endeavour to ſhew how the reckoning may be corrected with the leaſt error, and conſequently with ſafety, and according to the rules of common ſenſe, reaſon and experience; for the want of this reflection great errors have been made in the art of navigation, and at the expence of mens lives, ſhips, and rich cargoes, &c. By reaſon, ſea-faring men in general do not like much trouble in the pen and ink way, but will turn their reckoning round and round, and twirl their courſe about, until they bring their reckoning and obſervation to agree, without conſidering the conſequences that may attend their heedleſs inattention. The diſtance, which may be the greateſt cauſe of the error, or at leaſt the error, if not wholly in the diſtance, muſt, or may be partly ſo, or the error may be partly in the courſe, or

partly in the diſtance, as it may happen, or wholly in the courſe or in the diſtance; theſe are things which call forth the ingenions navigator's thoughts, care, and ſerious attention, being a thing that his well being, reputation, and his very life depends upon. Theſe are things that call for his minuteſt thoughts and attention.

I therefore ſhall give him an example of the method I have myſelf purſued, in which as there is a certainty, ſo there is a ſafety, and this muſt undoubtedly make the navigator more ſecure in his reckoning, and it more to be depended upon.

By way of Example, I will ſuppoſe a ſhip in latitude 30° ſouth, and longitude 10° eaſt from London, when they had their laſt obſervation, and the ſhip is three days without an obſervation, and the fourth day they have an obſervation, and find the ſhip in latitude 37° 4′ ſouth, by which it is found that the ſhip is 45 miles to the ſouthward of their dead reckoning, the ſhip's run for thoſe 4 days has been great, and after all allowance made for variation, lee-way, and the heave of the ſea, &c. ſhe has made her courſe and diſtance, as in the table following; by way of ſhewing the true method of correcting the reckoning, when a ſhip has been ſeveral days without an obſervation, whether the run is great or ſmall, the following is the method to correct the reckoning with any degree of certainty, which has always been my method of correcting the reckoning; each day's work is taken in as a ſingle courſe and diſtance in the Traverſe Table.

Example I.

Shewing the Method of correcting a Ship's reckoning when the Latitude & Obſervation, and the Run diſagree.

		Courſe.	Diſt.	N°	S°	E°	W°
			miles		Dif. lat.	Dep.	
The ſhip's courſe and diſtance for the 3 days they were without an obſervation, to the fourth day when they had an obſervation.	Firſt day's run . .	SEbS.	150		124. 7	83. 4	
	Second day's run . .	SE.	200		141. 4	141. 4	
	Third day's run . .	SEbE.	120		66. 7	99. 7	
	Fourth day's run . .	ESE.	120		46. 0	110. 9	
			590		378. 8	435. 4	

By

By the Ship's run.

The courſe is	. . . . .	S. 49° E.
Diſtance	. . . . .	576 miles.
Difference of Latitude	. . .	S. 379 miles.
Departure	. . . .	E. 435 miles.
Difference of Longitude	. . .	E. 522 miles.
Latitude in by dead reckoning	. . .	S. 36°. 19′
Latitude in ♆ obſervation	. . .	S. 37 4
The ſhip to the ſouthward of the reckoning		S. 0 45 miles.

The ſhip's Latitude before the 4 days run was 30° 0′S. and Long. 10°E.
The difference of Lat. for the 4 days is 379 miles = 6 19

The ſhip's latitude ♆ the run is	. .	36 19
♆ obſervation on the fourth day's run	. .	37 4

The ſhip to the ſouthward of the reckoning . 45 miles.

By the run I find the ſhip 45 miles to the ſouthward of the reckoning; in this caſe I allow the courſe 4° to the ſouthward, and lengthen the diſtance 24 miles, viz. the courſe will then be altered from S49°E. diſtant 576 miles, as by the ſhip's run to the following, by Correction

The courſe is	. . . .	S. 45° E.
Diſtance	. . . . .	600 miles.
Difference of Latitude	. . .	S. 424 miles.
Departure	. . . .	E. 424 miles.
Difference of Longitude	. .	E. 510 miles.
Latitude in ♆ obſervation	. .	S. 37° 4′S.
Longitude in from London	. . .	18 30E.

The ſhip's Latitude before the 4 days run	30° 0′S.	and Long. 10° 0′E.
Difference of Latitude ♆ obſervation	7 4S.	8 30E.
The ſhip's Lat. in ♆ obſervation the 4th day	37 4S.	18 30E.

The difference of Longitude by the ſhip's run is . 522 miles E.
The difference of Longitude by correction . . 510 miles E.

Leſs by correction 12 miles.

The before-mentioned work ſhews the four day's run corrected by obſervation, and ſhews the difference the correction makes in latitude and longitude, &c. which method I call dividing the error, or rather preventing an error, when the ſhip has been ſeveral days without an obſervation.

I will again, by way of example, change the queſtion, I will ſuppoſe the ſhip to run the ſame courſe and diſtance, as mentioned on the other ſide, and to be three days without an obſervation, and the 4th day they have an obſervation, and find the ſhip 47 miles to the northward of her reckoning, after all allowance has been made for variation, lee-way, heave of the ſea, &c. &c. the ſhip has had a great run, and has made her courſe and diſtance, as mentioned in the table following. I do this to ſhew the navigator how I correct the reckoning under thoſe circumſtances, to which I beg his attention. Each day's work, or the ſhip's run for 24 hours, is taken as a ſingle courſe and diſtance, as before, the ſhip is ſuppoſed to be in the ſame latitude and longitude as before, when the reckoning was laſt corrected, viz. latitude 37° 4′S. longitude 18° 30′E. from London.

Example II.

Shewing the method of correcting a Ship's reckoning when the Latitude & Obſervation and the Run diſagree.

The ſhip's courſe and diſtance for the 3 days they were without an obſervation to the 4th day, when they had an obſervation.

	Courſe.	Diſt.	N.	S.	E.	W.
		miles		Dif. lat.	Dep.	
The firſt day's run is	SEbS.	150		124. 7	83. 4	
The ſecond day's run is	SE.	200		141. 4	141. 4	
The third day's run is	SEbE.	120		66. 7	99. 7	
The fourth day's run is	ESE.	120		46. 0	110. 9	
		590		378. 8	435. 4	

By

By the Ship's run.

The courſe is	S.	49° E.
Diſtance		576 miles.
Difference of Latitude	S.	379 miles.
Departure	E.	435 miles.
Difference of Longitude		572 miles.
Latitude in by dead reckoning	S.	43° 23′
By obſervation	S.	42 36
The ſhip to the northward of her reckoning	S.	0 47 miles.

The ſhip's Lat. before the 4 days run was 37° 4′ S. and Long. 18° 30′ E.
The differ. of Lat. for 4 days is 379 miles 6 19

The ſhip's Latitude ℔ the run is	43 23
℔ obſervation on the 4th day	42 36

The ſhip to the northward of her reckoning 0 47 miles.

By the run, I find the ſhip 47 miles to the northward of the reckoning, in this caſe I allow the courſe 4° degrees to the eaſtward, and ſhorten the diſtance 24 miles, viz. the courſe will then be altered from S49° 0′ E. diſt. 576 miles, as by the ſhip's run to the following, by correction.

The courſe is	S.	53° E.
Diſtance		552 miles.
Difference of Latitude	S.	332 miles.
Departure	E.	441 miles.
Difference of Longitude	E.	573 miles.
Latitude in ℔ obſervation	S.	42° 36′
Longitude in from London		28 3 E.

The ſhip's Latitude before the 4 days run	37° 4′	S. and Long.	18° 30′	E.
Difference of Latitude ℔ obſervation	5 32	S. and Long.	9 33	E.
The ſhip's Lat. ℔ obſervation the 4th day is	42 36	S. Long.	28 3	E.

The

The difference of Long. ℔ the ſhip's run is . . 572 miles E.
The difference of Long. by correction is . . 573 miles E.

More by correction 1 mile.

For finding the difference of longitude when working a day's work at ſea.

The above is the method I would adviſe the navigator to correct his reckoning, when he has been more than one day without an obſervation, and he finds the ſhip's run and the obſervation do not agree. I know it gives trouble that ſeamen do not like, but it muſt be acknowledged to be the ſafeſt and ſureſt way of acting, and I would further adviſe the navigator not to truſt to finding the difference of longitude by middle latitude ſailing, but find the daily difference of longitude by, or according to Mercator's ſailing by meridional parts. See the Cannon for finding the difference of longitude in working a day's work at ſea.

As radius . . . . .
Is to the meridional difference of latitude,
So is the Tangent of the courſe,
To the difference of longitude.

By way of Example, I ſhall here give the navigator ſome uſeful remarks and obſervations, made in a voyage from the Lizard to the Iſland of Madeira, in the year 1758, with a fleet of ſhips, and ſhall give him the remarks and allowance made in working the day's work every day at noon, during this paſſage, by way of ſhewing the navigator how neceſſary it is to make ſuch allowance in working his day's work every day at noon, which is not ſo much obſerved or noticed as it ought to be.

We took our departure from the Lizard, the 8th day of March, 1758, at 3 PM. the Lizard bore NNE. 8 leagues, at noon moderate and fair weather, had an obſervation, variation allowed, 1¼ point weſt, a ſwell from the NW. allowed for it, and found the reckoning and obſervation agree.

9th. March. At noon, moderate and cloudy weather, a great ſwell from the NW. had an obſervation, variation allowed, 1¾ point weſt, the courſe W 35° S. diſtance 85 miles, latitude ℔ obſervation, 48° 7′ N. found by obſervation, the ſhip 8 miles to the ſouthward of her reckoning, allowed the courſe 5° to the ſouthward for a ſwell from the NW.

10th.

10th. March. At noon, freſh gales and cloudy weather, had an obſervation, variation allowed, 1¾ point weſt; the courſe S31°W. diſtance 86 miles; latitude ♆ obſervation, 46° 53′N. allowed for a ſwell from the NW. and found the reckoning and obſervation agree.

11th. March. At noon, freſh gales and cloudy weather, had an obſervation, variation allowed, 1½ point weſt; the courſe SWbS. diſtance 64 miles; latitude ♆ obſervation, 46°N. found by obſervation, the ſhip 5 miles to the northward of the reckoning, allowed the courſe 4° to the weſtward, and ſhortened the diſtance 4 miles.

12th. March. At noon, little wind and clear weather, with a great ſwell from the NW. had an obſervation, variation allowed, 1½ point W; the courſe SE. diſtance 40 miles; latitude ♆ obſervation, 45° 32′N. lengthened the diſtance 7 miles for the NW. ſwell, found the reckoning and obſervation agree.

13th. March. At noon, freſh gales and clear weather, had an obſervation, variation allowed, 1½ point weſt; the courſe S36°W. diſtance 52 miles; latitude ♆ obſervation, 44° 50′N. allowed the NW. ſwell to heave the ſhip SE. 8 miles in the 14 hours, it was little wind, and calm, found the rockoning and obſervation agree.

14th. March. At noon, ſtrong gales and hazy weather, no obſervation, variation allowed, 1½ point weſt the courſe S35°W. diſtance 58 miles; latitude in ♆ account 44° 2′N. allowed for a great ſwell from the NW. as before, 8 miles to the SE.

15th. March. At noon, freſh gales and ſqually uncertain weather, with a very high ſea from the WNW. no obſervation, variation allowed, 1½ point weſt; the courſe N40°W. diſtance 41 miles; latitude in ♆ account 44° 33′N. a great ſea from the WNW. allowed it to heave the ſhip ESE. 9 miles theſe 24 hours.

16th. March. At noon, freſh gales and clear weather, with a great ſwell from the weſtward, had an obſervation, variation allowed, 1½ point weſt; the courſe W26°N. diſtance 43 miles, latitude ♆ obſervation, 44° 52′N. a very great ſwell from the weſtward, allowed it to heave the ſhip eaſt, diſtance 9 miles the 24 hours, found reckoning and obſervation agree.

17th

17th. March. At noon, moderate and cloudy weather, with a great ſwell from the weſtward, had an obſervation, variation allowed, 1½ point weſt; the courſe S26°E. diſtance 30 miles, latitude ☿ obſervation, 44° 25′N. a great ſwell from the weſtward, allowed it to heave the ſhip eaſt, diſtance 8 miles theſe 24 hours; found the reckoning and obſervation agree.

18th. March. At noon, moderate and clear weather, with a ſwell from the NW. had an obſervation, variation allowed, 1½ point weſt; the courſe S17°E, diſtance 93 miles; latitude ☿ obſervation, 42° 56′N. allowed the NW. ſwell to heave the ſhip SSE. 6 miles, but found by obſervation the ſhip 5 miles to the ſouthward of the reckoning, lengthened the diſtance 5 miles, and then the reckoning and obſervation agreed.

19th. March. At noon, ſtrong gales and cloudy weather, with a great ſea from the WNW. had an obſervation, variation allowed, 1½ point weſt; the courſe S7°W. diſtance 46 miles, latitude ☿ obſervation 42° 10′N. allowed the courſe ½ a point to the ſouthward for the ſea from the WNW. found by obſervation the ſhip 8 miles to the northward of the reckoning. Shortened the diſtance 8 miles.

20th. March. At noon, cloudy and ſqually weather, with a ſwell from the weſtward, no obſervation, variation allowed, 1½ point weſt, the courſe S7°W. diſtance 77 miles, latitude in ☿ account, 40° 54′N. allowed the weſterly ſwell to heave the ſhip half a point to the ſouthward of her courſe.

21ſt. March. At noon, freſh gales and ſqually weather, with a very great ſea from the weſtward, had an obſervation, variation allowed, 1½ point weſt; the courſe SE diſtance 58 miles; latitude ☿ obſervation, 40° 13′N. allowed for a great ſea from the weſtward, ſuppoſing it to heave the ſhip 5 miles to the eaſtward, and found the reckoning and obſervation to agree.

22d. March. At noon, ſqually uncertain weather, with rain and a great ſwell from the weſtward, no obſervation, variation allowed, 1½ point weſt; the courſe S16°E. diſtance 45 miles; latitude in ☿ account, 39° 30′N.

allowed

allowed the weſterly ſwell to heave the ſhip EbS. 6 miles during the 6 hours it was calm.

23d. March. At noon, freſh gales and cloudy weather, with a very great ſea from the weſtward, had an obſervation, variation allowed, 1¼ point weſt; the courſe S18°W. diſtance 95 miles, latitude ℔ obſervation 38° 0′N. allowed the great ſea from the weſtward to heave the ſhip ¾ of a point to the ſouthward of her courſe, and found the reckoning and obſervation to agree to a mile, ſuppoſing the ſwell to have hove the ſhip 19 miles to the eaſtward.

24th. March. At noon, moderate and clear weather, with a great ſwell from the NW. had an obſervation, variation allowed 1¼ point weſt; the courſe S26°W. diſtance 132 miles, latitude ℔ obſervation 36° 2′N. allowed the NW. ſwell to heave the ſhip ½ a point to the ſouthward of her courſe, and lengthened the diſtance 2 miles, and found the reckoning and obſervation agree, ſuppoſing the ſwell to have hove the ſhip 15 miles to the eaſtward.

25th. March. At noon, moderate and clear weather, with a ſwell from the NW. had an obſervation, variation allowed, 1 ¼ point weſt; the courſe S25°W. diſtance 117 miles, latitude ℔ obſervation 34° 16′N. allowed the NW. ſwell to heave the ſhip ¼ of a point to the ſouthward of the courſe, and found the reckoning and obſervation agree.

26th. March. At noon, moderate and hazy weather, had an obſervation, variation allowed, 1¼ point weſt; the courſe S26°W. diſtance 112 miles, latitude ℔ obſervation 32° 36′N. the ſea very ſmooth, found the reckoning and obſervation agree to a mile, latitude in ℔ account at 5 A. M. was 32° 38′N. being near the latitude of Madeira, bore away for Madeira; was ſteering SbW. and ſteered when we bore away WbN. latitude in is 32° 36′N. being the latitude of Madeira.

27th March. At noon, moderate and hazy weather, at 2 PM. ſaw the land, the Iſland of Madeira, bearing WbN$\frac{1}{4}$N. diſtance 9 or 10 leagues; at 6 P. M. the eaſt point of Madeira bore NbW$\frac{1}{2}$W. diſtance 6 or 7 leagues.

NOTE.

The following is the reckoning worked home to 6 P. M. when the eaſt end of Madeira bore NbW$\frac{1}{2}$W. diſtance 6 or 7 leagues, the courſe and diſtance from noon to 6 P. M.

Courſe W21°S. diſtance	37 miles.
Latitude in	32° 23′N.
Longitude in	16 33W.
Longitude made	11 19W.
Meridian diſtance	8 11W.
The Lizard NNE$\frac{1}{4}$E. diſtance	388 leagues.

Madeira's Latitude, 32° 36′N. Madeira's Longitude, 17°W. from London. This is the Latitude and Longitude of the body of the Iſland.

Madeira's Latitude,	32° 36′N.	Madeira's Longitude,	17° 0′W.
The ſhip's Latitude,	32 23 N.	Ship's Longitude at 6 P. M.	16 33W.
The ſhip to the ſouthward of the body of the iſland,	0 13	The ſhip to the eaſtward of the body of the iſland,	0 27 miles.

The

The following Table will ſhew the number of miles in the departure, and the difference of Longitude made each day in the correction of each day's work, in the run from the Lizard to Madeira, as it is allowed in the Log Book.

Day of the Month.	Departure.	Diff. of Long.
9 March 1758.	Leſs weſting . . 5	7
10	Reckoning agreed without Correction.	
11	More weſting . . 3	4
12	Ditto . . . 4	5
13	Leſs weſting . . 6	8
14	Ditto . . . 7	9
15	Ditto . . . 8	11
16	Ditto . . . 9	12
17	Ditto . . . 8	11
18	Ditto . . . 4	5
19	Ditto . . . 5	7
20	Ditto . . . 7	9
21	Ditto . . . 4	5
22	Ditto . . . 6	8
23	Ditto . . . 14	19
24	Ditto . . . 11	15
25	Ditto . . . 6	8
Total	107	143
To ſubtract for more weſting	7	9
Total remains is	100	134

It may be allowed our ſhip's reckoning was tolerably exact, or as much ſo as could be expected. I muſt here take notice of the allowance made in the ſhip's run in each day's work, in this run from the Lizard to the Iſland of Madeira, which the ſhip's Log Book will ſhew, as mentioned in each day's work, in the preceeding Table, amounting

to 100 miles in departure, which makes in longitude 134 miles, and is 2° 14′ in longitude to the eaſtward of the run: by the correction in this run, and the allowance made in each day's work for the heave of the ſea, or ſwell, &c. Suppoſe this allowance or correction of the ſhip's reckoning had not been made, would not the ſhip have been, or ſuppoſed to have been 134 miles, or 2° 14′ to the weſtward of the Iſland of Madeira; when we made that Iſland, which was the caſe with many ſhips that were in company, ſome of them hailed us early in the morning, 7 or 8 hours before we made Madeira. When running down in the parallel, in order to make that iſland, they ſaid we were not running for the iſland, but were running from it, for they were by their reckonings 2½ and ſome 3, and ſome near 4 degrees to the weſtward of Madeira. This was rather unpleaſant to be told us, when ſo many of them were of that opinion, and *We*, the Commanding Ship of the Fleet, to be ſo different in our reckoning from the reſt of the Fleet, was rather alarming, however, we kept ſteering to the weſtward, in the parallel of latitude of the Iſland, and at 2 P. M. ſaw the land as before-mentioned.

Directions for the beſt anchorage in Madeira Road.

I ſhall here beg leave to give the navigator the marks and bearings, with the depth of water, for the beſt anchorage for a ſhip to lay in Madeira Road, and to moor with the bowers; the beſt bower to lay to the NW. in 23 fathom water, the ſmall bower to the SE. in 30 fathom water, the ſhip will lie when moored, in 25 fathom water, the weſt Point of Fonchial Bay, WbN. and the eaſt point, EbS. and the Leu Rock N¼W. The Leu Rock and Citadel in one, which is the beſt anchoring ground in this Road, it being the cleareſt and beſt holding ground.

As I have ſaid much about the log and log book, and the conſequences of heaving the log, and marking the log book in a proper manner, and all the neceſſary occurrences to be marked therein for the navigator's guide in working his day's work. I think I cannot explain it better, than by giving you the exact copy of my log book, whilſt the ſhip was at

ſea

ſea for the two laſt days prior to the making the Iſland of Madeira, being then in his Majeſty's ſhip Grafton.

H	K	F	Courſes	Winds.	Remarks on Sunday 26th. March, 1758.
1	5	3	SSW.	ENE.	Moderate and clear weather.
2	5	6			
3	7			NE.	
4	7	2	SbW.		Freſh gales and cloudy.
5	7	3			Shortened ſail for the Convoy.
6	6	6		ENE.	Ditto, weather, 12 ſail in company, ſaw 3 ſail in the SW.
7	6	4		NEbE.	quarter.
8	6	2			Freſh gales and cloudy weather.
9	7				Lat. in by account 33° 9′N. ſhortened ſail.
10	7				Courſe, S26° W. diſt. 112 miles.
11	5				Latitude, 32 36′N.
					Long. made, 10 38 W.
					Meridian diſt. 7 37 W.
					The Lizard, N24 E. diſt. 376 leagues.
					Porto Sancto, N. diſt. 7 leagues.
					Madeira E. end W. diſt. 17 leagues.
12	4	4			Ditto, weather.
1	4	4			
2	4	4		EbN.	
3	4			NEbE.	
4	4	2			Ditto, weather.
5	4	4			Latitude in by account at 5 A. M. 32° 38′N. bore away and
6	5		WbN.		made ſail, out all reef top-ſails, ſet ſtudding ſails, made the
7	7				Sunderland, ſignal to ſpeak to her, ditto, ordered her a-head to make the land.
8	7			NE.	Freſh gales and cloudy hazy weather, made the Rhoda's,
9	6	5			ſignal to bring up the rear of the fleet.
10	6	3			Made the Prince of Wales's ſignal to ſpeak her, ordered her to
11	6	5			the northward to look out for land.
12	6	2			Moderate and hazy weather, 13 ſail in ſight, 12 in company, had obſervation, variation allowed 1 ¼ point weſt, found the reckoning and obſervation agree to a mile, the ſea very ſmooth.
					Diſtance by log 143 miles.

H	K	F	Courſes.	Winds.	Remarks on Monday 27th. March, 1758.
1	6		WbN.	ENE.	Moderate and hazy weather, at 1 P. M. the Sunderland made
2	6	5	W.		the ſignal for ſeeing the land, ditto made the Prince of
3	8		W½N.	NEbN.	Wales's ſignal to ſpeak with her, ſaw the land bearing
	4		W.		WbN¼N. 9 or 10 leagues, made more ſail.
4	3	4	SW½W.		Ditto weather, two of the Convoy parted company and
5	6		SWbW.		ſaluted each with 7 guns, ditto anſwered their ſalutes with
6	4		WSW.		5 guns.
	2		WbS.		The eaſt point of Madeira NbW½W 6 or 7 leagues.
7	4		WNW.	NE.	The outer point of the Sorters NNE. 4 or 5 miles, ſhortened
					ſail, double reeft the top-ſails, 10 ſail in company.
8	3		NWbW.		Moderate and cloudy weather, the outer part of the Sorters
					EbS. 2 or 3 leagues.
9	2	4	NWbN.		Note. This work is worked home to 6 P. M. when the eaſt end of Madeira bore NbW½W. 6 or 7 leagues. Courſe, W 21° S. diſt. 37 miles. Latitude in 32 23′N. Longitude in 16 33 W. Longitude made 11 19 W. Meridian diſtance 8 11 W. The Lizard NNE¼E. diſt. 388 leagues.
10	2	3			
11	3	4	NW½W.		
12	3	3	NWbN.		Moderate and clear, the eaſt point of Madeira bore EbN.
1	2	5	ESE.		4 or 5 leagues, made the ſignal and tacked to the eaſtward
2	2	5			
	1	2			
3	1		NNW.		Made the ſignal and tacked to the northward.
4	2	4			Moderate and clear weather, made more ſail.
5					
6					The Town of Fonchial NbE½E. 5 or 6 miles, 10 ſail in company turning into Fonchial Road.
7					
8				NNE.	Ditto weather, turning into Fonchial Road.
9					
10				Varbl.	Light airs.
11					
12				S.	Light airs of wind and clear weather. The town of Fonchial NWbN. diſtance 7 or 8 miles, 10 ſail in company, hoiſted out the boats to tow the ſhip.

Navigators not ſufficiently attentive to the heave or ſet of the ſea.

The circumſtances which I have mentioned in correcting the reckoning from the Lizard to Madeira, ſufficiently prove what I have ſaid elſe where, how inattentive navigators are in not taking more notice, and not being ſufficiently attentive to the heave or ſet of the ſea, or ſwell, when ſailing acroſs the Ocean, particularly when the ſwell or ſea takes the ſhip nearly on the broadſide, as it does in the paſſage from England to Madeira. The ſhip's courſe is moſtly between the ſouth

and

and SSW. and the ſea or ſwell comes from the weſt and WNW. out of the weſtern Ocean, which takes the ſhip upon the broadſide and heaves her very conſiderably to the eaſtward, which I made allowance for as before mentioned; but the ſhips in our fleet did not, which made them by their reckonings 3 or 4 degrees to the weſtward of Madeira, before they got the length of it, and all this through inattention. The like error will happen in every other paſſage where the navigator is not ſufficiently attentive. I muſt here obſerve, the ſame error will, or is likely to happen in a paſſage from Madeira to the Cape de Verde Iſlands, which has proved fatal to ſeveral outward bound Indiamen, a great ſwell from the weſtern ocean continually heaving from the weſtward to the eaſtward all along the Coaſt of Africa, as far as the Cape de Verde, home to the ſhore, which, if unnoticed, or not allowed for, will cauſe a great error in their eaſting or weſting, and of courſe in their longitude, to which I impute the cauſe of ſo many misfortunes happening to our outward bound ſhips in going this track, ſome of them having been wrecked on the Cape de Verde, and ſome on the Iſlands of that name, not by ſtreſs of weather, but mere inattention, as I have mentioned elſe where; though in this tract they have the variation for their ſure guide, as well as ſoundings all along this part of the Coaſt of Africa.

Ships wrecked through inattention in not obſerving the heave of the ſea, and to make allowance for it. The Litchfield Man of War experienced the effects of this about the year 1758.

I muſt here beg leave to mention another part of the paſſage to India, which is liable to an error from the heave of the ſea or ſwell, which is in the run from the Cape of Good Hope, or from Cape Lagullas to Madagaſcar, where there is a continual ſea or ſwell from the ſouthward, SE. or SWeſtward, which the navigator ſhould be attentive to, and make allowance for, as great miſtakes have been made, and irrecoverable misfortunes have happened, both to the loſs of ſhips and men's lives, which loſſes have happened merely through inattention of the navigator. I here allude to the loſs of the Doddington, and though I have ſaid much of of her loſs in another place, yet that accident has made ſo ſtrong an impreſſion on my mind, that I cannot help ſaying ſomething more of that unfortunate ſhip; though far be it from me to caſt any diſagreeable reflections on the dead, or on the unfortunate Captain who commanded

Further remarks on the heave of the ſea from Cape Lagullas to Madagaſcar exemplified.

Loſs of the Doddington Eaſt Indiaman, outward bound.

manded that ſhip. Peace be to his ſoul. God forbid!—Such a reflection would be baſe, mean, and much unlike a Chriſtian, and very far from my intention. I only mean to point out the error or miſtake made in navigating that ſhip, for the benefit of navigators in general, ſo that the living may be benefited by the dead, and it is better for us to gain experience by other men's miſcarriages than our own.

Conſiderations on the loſs of the Doddington, and the cauſes thereof.

The firſt thing to be conſidered is, the place the ſhip was in, or ſuppoſed to be in; her latitude in at noon the day ſhe was loſt was 35° ſouth, had made longitude 12° 50′ eaſt from Cape Lagullas, they had ſtrong gales of wind from SSW. to SSE. with a great ſea, they altered their courſe at noon from eaſt to ENE. and ran about 70 miles on that courſe under double reeft top ſails and courſes, till about a quarter before 1 AM. when the ſhip ſtruck and went all to pieces in about 20 minutes. The next conſideration was, or ſhould have been, the lying of the coaſt that was ſo near them, and which they were ſailing along, and ought to have ſhaped their courſe to have ſailed along the coaſt, and not to have neared it, and more eſpecialy in ſtormy hazy weather, with the wind blowing on the ſhore, with a great ſea heaving the ſhip in upon the ſhore, and it is much to be feared that they did not conſider the variation, or did not make a proper allowance for it. They ſteered ENE. by compaſs, and muſt at leaſt have had 25° of weſt variation, which is 2¼ points with a great ſea from the ſouthward, which muſt have hove the ſhip a quarter or half a point to the northward of her courſe ſteered, ſo that ſhe could not make her courſe better than NE½N. or NE¾N. which was too northerly a courſe; had ſhe been 3 degrees to the eaſtward of where ſhe was by her reckoning, ſhe ſteered at leaſt 2½ points in upon the land, and ſtormy weather and night time and very hazy weather. This is a thing a judicious navigator guards againſt in hazy weather and night time. He would rather ſhape his courſe to ſail parallel to the ſhore in the night time and bad weather. The experienced navigator, with the wind blowing on the ſhore, would rather ſteer ½ a point off the ſhore, or in ſome caſes, he would ſteer a point off the ſhore, for fear of the wind's ſcanting upon him, and to prevent his being encumbered

incumbered or entangled with a lee-ſhore in the night time, and bad weather, and in the day time he might ſteer half or a whole point in, upon the ſhore, if he thought proper. This is the uſual method with judicious ſeamen, eſpecially when they have the land only on one ſide of them; it is by far the ſafeſt way of acting. It is a ſaying amongſt ſeamen, *Night has no Eyes.*

Some farther Remarks with reſpect to the Loſs of the Doddington Eaſt Indiaman, outward bound.

Her unfortunate Captain ſaid, when he altered his courſe at noon from E. to ENE. that he reckoned himſelf 90 leagues off the land, which made him ſteer ſo northerly a courſe; the ſhip ran but 70 miles, and that not right in for the land, but ſlanting, or rather a long ſlant in upon the ſhore, not more than 2 or $2\frac{1}{2}$ points in upon the ſhore when the ſhip ſtruck. The place where the ſhip was loſt is a ſmall Rock or Iſland, called the Iſland of Chios, a barren Rock, or Iſland, about 2 leagues from the main, which is laid down in the India Pilot in 33° 30′S. but by a good obſervation made with a Hadley's Quadrant while they were on he iſland, its latitude is 34° ſouth *, and is no conſiderable height above the water, and but of very ſmall extent. This melancholy accident is ſo ſhocking to me, as a ſeaman, that I cannot help dwelling upon it, to think of a ſhip and ſo many lives being loſt in a few minutes, for out of 270 ſouls that were on board, only 23 were ſaved; they remained ſeven months on this miſerable place, ſubſiſting on fiſh and the eggs of ſea fowls, with what proviſion they found drive on ſhore from the wreck: during that time the Carpenter built a large boat, which they rigged as a ſloop, in which they went to Delagoa, the 18th day of February 1756. They compleated their boat and ſailed for Delagoa, but were ſo long on their paſſage by currents ſetting to the

A deſcription of the place where ſhe was loſt.

* 30 miles more to the ſouthward than laid down.

ſouthward, that it was two months before they arrived at that place, this, long paſſage, and a ſcarcity of proviſions, made their condition worſe than when they were on the iſland. When they got to Delagoa, they found there the Roſe Galley, Captain Chandler, belonging to Bombay, who gave them a paſſage to Madagaſcar, where they found the Carnavon Indiaman, Captain Norton Hutchinſon, bound to Madraſs, who took them all on board. It muſt be allowed, the Captain of the Doddington was much out in his diſtance from the ſhore, as well as being much out in his longitude, and I am of opinion that they were out in their latitude *; though they ſay they had an obſervation that day at noon, I think it could not be a good one, and there muſt have been ſome extraordinary miſtake in the whole of their proceedings, and I think the Doddington's reckoning muſt have been very erroneous, for they had made longitude to where the ſhip was loſt 13° 45′E. from Cape Lagullas, and where the ſhip was loſt is not more than 8 degrees to the eaſtward of the ſaid Cape.

Capt. Sampſon's laſt words juſt before he was drowned.

Here I muſt obſerve, the unfortunate Captain Sampſon's (Commander of the Doddington) laſt words to Mr. Jones, the Chief Mate, whom I knew, and who gave me this account, he ſays, "After the ſhip ſtruck, "as Captain Sampſon ſat with me on the ſhip's quarter, ſaid he had "pricked off that day at noon, on the draught, the ſhip's run †, and "judged himſelf 90 leagues from land, and imagined this to be ſome "unknown Rock, where poſſibly the Dolphin was loſt."—"We expected "every

The Dolphin Indiaman loſt, but never known where.

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* The Doddington's latitude at noon was 35°S. had made longitude from Cape Lagullas 11° 50′E. ſteered ENE. 70 miles, which made her latitude when ſhe ſtruck at 1 A. M. to be 34° 6′S. and longitude from Cape Lagullas 13° 45′E. I make it ſo by carefully working their run from noon till the time ſhe was loſt.

† To prick off the ſhip's run on the draught, in order to find the ſhip's place or ſituation, is a miſtaken idea, and will ever lead men into error; it is a thing I never practiſed in my long ſervice at ſea, but in order to find the ſhip's diſtance from the land ſhe was neareſt too by the latitude and longitude of the place, and that the ſhip was in, which is far more to be depended on than pricking off the ſhip's way on the draught, which will ever be found erroneous.

" every minute to be waſhed off by the ſea, and Captain Sampſon bid us " all farewell, and hoped we ſhould meet again in the next world. " Soon after we were all waſhed off, and in a little while ten of us " met on ſome ragged rocks, and crept cloſe together to keep ourſelves " warm."

It appears by the account of the people that were ſaved out of the Doddington, that ſhe was not the only ſhip that had been caſt away on that Iſland, for they ſaw the remains of the wreck of ſeveral other ſhips that had been loſt there; no doubt by the ſame cauſe ſhe was loſt.

Several wrecks ſeen where the Doddington was loſt.

Having dwelt long upon the loſs of the Doddington, and having given my opinion of the cauſe of her misfortune, I ſincerely hope it may be the means of preventing the like miſcarriage happening in future, I muſt beg leave to make one obſervation more, which, I hope the ingenious navigator will allow to be a truth, that is, if a ſhip is ſailing againſt a current, and ſhe ſtems it, or the current takes her right a-head, it will not effect the courſe but the diſtance only; but if the current takes the ſhip a point or two on either bow, it very materially affects her courſe; this was the caſe with the Doddington when ſhe altered her courſe from E. to ENE. ſhe did not make her courſe better than NE½N. and the current took her broad upon the ſtarboard or weather bow, which threw her very faſt in upon ſhore, and this they were not aware of, but it ſhould be a thing well conſidered by all navigators.

A caution concerning currents.

Remarks on the Loſs of the Groſvenor Indiaman, homeward bound.

Before I quit the ſubject of ſailing along this part of the Coaſt of Africa, between Cape Lagullas and Madagaſcar, I muſt beg leave to mention the loſs of the Groſvenor, homeward bound Indiaman, on this part of the Coaſt, and very lately. The loſs of this ſhip is a circumſtance, almoſt as melancholy as that of the Doddington, it is recent in the memory of every body, with this only difference, the former was

loſt in bad weather, and the latter in moderate weather, and as negligently as ever a ſhip was loſt, and merely by inattention; had there even been a good look-out, the accident could not have happened; this was an unpardonable and provoking neglect and inattention; to looſe a ſhip with a valuable cargo and ſo many lives in fair weather. This is a circumſtance entirely inexcuſable in thoſe who have the care of navigating a ſhip, when there are ſo many things which corroborate to guide and direct the navigator, but the want of a good look-out, will not admit of any excuſe, which was the caſe with the Groſvenor.

Remarks of the lying of the land being improperly laid down.

I have elſewhere mentioned that the land on this part of the Coaſt of Africa, from Cape Lagullas for 160 leagues to the eaſtward of the ſaid Cape, is very erroneouſly laid down in all our draughts, charts, and books; the land lying much more to the ſouthward and eaſtward, than it is laid down, and all the charts make it trench away to the northward too quickly, which is a very great error, as it deceives and miſleads the navigator, making him haul to the northward too ſoon, which runs him into danger, whereas he ſhould keep more to the ſouthward and eaſtward, to avoid it.

The lying of the land 130 leagues to the eaſtward of Cape Falſo, with the ſoundings on which coaſt the Groſvenor was loſt.

And again, as I have proved that the land for 130 leagues to the eaſtward of Cape Falſo, by my own Work lies E2°N. and W2°S. whereas the charts make it WbS. and EbN. this is an unpardonable error, and has been the principal cauſe of ſo many accidents happening to ſhip's ſailing in this track. We ſaw the land the 28th of Feb. 1764 in latitude 35° 7′S. diſtance 130 leagues to the eaſtward of Cape Falſo, diſtance off ſhore 14 or 15 leagues, had ſoundings at 70 fathoms fine black ſand, we were homeward bound, and continued our ſoundings all along the Coaſt to Cape Falſo, and to the Cape of Good Hope, the ſoundings regular, and ſhoaling gradually as we neared the land, and deepening gradually as we ſtood off from the land.

Sure guide to prevent ſhip's running aſhore on this part of the Coaſt of Africa.

From which it appears, that a ſhip cannot run a-ſhore on this part of the Coaſt of Africa, if they will keep the lead going, or be at the pains to ſound, there are ſo many corroborating circumſtances for the navigator's guide, *Firſt*, the latitude, *Secondly*, the variation, *Thirdly*, the ſoundings,

Fourthly,

Fourthly, the Boldneſs of the ſhore, *Fifthly*, the regularity of the ſoundings, and *Sixthly*, the great heighth of the land, which may be ſeen 12, 13, 14, 15, or 16 leagues in fair weather. Had the Groſvenor been attentive to thoſe ſure guides, ſhe ſurely would have eſcaped the accident that befel her. The ſoundings is a thing that never ſhould be neglected, but diligently ſought after, as it is the navigator's ſure guide, night or day.

For further explanation ſee my former publication, 1765, page 112.

I muſt here beg leave to mention a ſaying of a brave and well experienced Admiral, who has been dead many years *, and who was well acquainted with the navigation of the Engliſh Channel; he uſed to ſay, the three LLL's were the beſt guides in coming into the Channel, that is, *Latitude*, *Lead*, and *Look-out*. Which is certainly true, and will hold good in every other navigation in the world, and is what I would recommend to every ſeaman and navigator, that has any thing to do with the navigating a ſhip of any ſort. But I am ſorry to ſay, it is not ſo much attended to as it ought to be; if it was properly attended to, it would furniſh the navigator with a great deal of uſeful knowledge, which would be of great ſervice to himſelf and ſeamen in general, as I have elſewhere mentioned.

Judicious remarks for ſhip's coming into the Channel.

In the laſt paragraph, I mentioned coming into the Engliſh Channel, I could wiſh to imprint the idea of this buſineſs in the mind of every ſeamen, as a buſineſs of ſerious conſequence to himſelf and others, it being a place where ſo many dangerous conſequences have happened, even to the beſt and moſt experienced navigators, which makes me at a loſs to account for ſome. Many extraordianary loſes of ſhips and mens lives happening at different periods of time, Admiral, Sir Cloudſly Shovel, with a ſquadron of Men of War, loſt on the iſlands of Scilly many years ago, with many other National loſes, both of a public and and private nature, grevious to relate, or to think of, ſome of my moſt intimate friends and acquaintance, who were eſteemed for their long ſervice, as good ſeamen and proper navigators, to my great concern, have

Ill conſequences ariſing from not paying due attention, when coming into the Engliſh Channel.

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* Sir John Norris.

have loſt their ſhips and lives on the Iſland of Scilly. This melancholy thought pictures a ſcene of the deepeſt woe. Who can but ſhudder at the idea!

Further remarks on a ſhip entering the Engliſh Channel.

I muſt here obſerve, it has been the opinion of many ſeamen that have wrote on a ſhip's coming into the Channel, or approaching the Engliſh Channel, that there is a ſet tide or current ſetting to the northward 9 hours out of 12, which they ſay is the cauſe that navigators are deceived, and is the reaſon that they generally find their ſhips to the northward of their reckoning, &c.

I muſt here beg leave to ſay, that I have been as attentive a navigator as moſt, and in the many times I have entered the Engliſh Channel in every kind of weather, fair and foul, I never found the indraught to the northward, as thoſe men have ſaid; and I have ever found, that by allowing for the variation, I could keep my parrallel of latitude as exactly as in any part of the Ocean, as I have a great number of Journals to prove, and as I have always mentioned circumſtances of this kind when they have happened in my day's work, it being a material thing to mention.

I rather think this miſtake has ariſen from ſome injudicious ſeaman, who did not know how to allow for the variation, as I elſewhere have had occaſion to ſpeak of.

A frightful inſtance of a ſhip coming into the Engliſh Channel without an obſervation.

I muſt here beg leave to relate a circumſtance which will be ſtriking to the mind of every reaſonable man. When I was but a very young man, I was in a Man of War coming from Liſbon with a Convoy, in February, 1742, I had gained experience and knowledge enough to keep the ſhip's way, and to work a day's work, and to keep a Journal. When we ſailed from Liſbon the wind hung much to the northward, which obliged us to ſtand to the weſtward, to get into the weſterly winds-way, which we at laſt met with, but they came on ſo furiouſly in hard gales, with long nights and dark hazy weather, with a monſtrous high ſea, and our ſhip being one of the faſteſt ſailers in the Navy, ſhe ſailing faſter without a thread of ſail, than a Merchant ſhip could do with

with all the ſail they could carry, of courſe we ſoon loſt company with our Convoy.

A miraculous eſcape of a ſhip nearly being loſt on the Iſland of Scilly through obſtinacy and inattention.

As we approached the Engliſh Channel, the ſame wind and weather continued, we had been many days without an obſervation, and never brought too to ſound, the ſhip ſcudding under her foreſail, at the rate or 11 or 12 knots ℔ hour, the ſea mountains high, and the weather ſo dark and hazy, that we could not ſee a quarter of a mile; (let the Reader obſerve, with wonder and aſtoniſhment,) this day at noon we ſuppoſed ourſelves near Scilly by our reckoning, we had a ſight of the ſun juſt before 12 o'clock, or noon, the ſun became clouded before it was up, and we ſaw it no more; the general part of the obſervations, except the Captain's was, that we were in the ſtream of Scilly, or in the latitude of it, the Captain in great wrath, ſaid we were all a parcel of fools, and that our obſervations were wrong; indeed, to do him the juſtice that was his due, he always obſerved and worked his day's work himſelf; he ſaid the ſhip, by his obſervation, was half a degree to the ſouthward of Scilly, and in a fair way for running up the Channel; he condeſcended to aſk me what I made the latitude, I ſaid I was in the latitude of Scilly, and by the colour of the water that we were in ſoundings, for the water was as white as milk; he anſwered me, by ſaying, I was as great a fool as the reſt, and that we were in the fair-way, and the Maſter of the ſhip's opinion had no more weight with him than any others. Many of the ſhip's company, as well as myſelf, were very uneaſy, and much troubled * (O Reader, think of our great ſurpriſe) about half paſt 12 o'clock the cry from the fore-caſtle was, breakers right a-head and on both bows, the land we could not ſee, being ſo hazy weather, there was not a moment's time to be loſt, the breakers maſt-head high, were cloſe to us, we at once ſaw we could not

Saw the breakers on Scilly and how they eſcaped them.

* The ſhip's company were much alarmed, were all upon deck, their apprehenſions of danger being very great. This proved very fortunate, for when we ſaw the breakers, they inſtantly obeyed the orders that were given, and trimmed the ſails in an inſtant of time, which was the ſaving of the ſhip.

not hawl to the ſouthward, to clear them, therefore hauled to the northward, and with great difficulty cleared the breakers; we were within two ſhips lengths of the breakers when we hauled to the northward, under a fore-ſail and a mizen, which ſails were trimmed moſt expeditiouſly, ſo as to bring the wind upon the beam, when the ſhip's head was hauled to the northward, the wind at WSW. Thanks to God and our good ſhip, which was one of the beſt conditioned, and faſteſt ſailers in the World, for ſhe flew like a bird. Soon after we hauled our wind to the northward, we found we gained off ſhore from the breakers, and ſometime after, it clearing up a little, ſaw the land, which proved to be St. Martin's Head, being the northermoſt part of the Iſland of Scilly, which we knew in this violent ſtorm, all the ſhoals and dangers ſhewed themſelves by the Sea breaking as high as a ſhip's maſt-head on them. As ſoon as we knew the land, we bore away, and went between St. Martin's Head and the Seven Stones, and paſſed the Wolf Rock, to the ſouthward of it, the ſea breaking maſt-head high on it, and ran up the Channel (What a providential eſcape was this!) and attended with ſuch a degree of obſtinacy, that made it unpardonable, and notwithſtanding all this, the Captain was an excellent ſeaman, but was very much hurt on this occaſion, and publickly declared, that he would never act with ſuch obſtinacy again.

Saw Scilly, and were obliged, through neceſſity, to go to the northward of it.

I muſt here again beg leave to mention a very extraordinary circumſtance that happened but a very few years ago, a ſhip, in coming into the Channel from Newfoundland, got into Mount's Bay for their firſt landfall, which was wonderful, (What an hair's breadth eſcape!) how did they get clear of the Iſland Scilly? Is it poſſible to conceive which ſide of Scilly they came off? If to the northward, how providentially they eſcaped the danger of the Seven Stones and the Wolf Rock. If they came to the ſouthward of Scilly, what a ſtrange courſe muſt they have ſteered, to get into Mount's Bay, (frightful to think of!) and it muſt be ſuppoſed they could not have hove their lead, if they had, the lead would

A great miſtake made by a ſhip coming into the Channel.

would have informed them of their haſty approach to the land. I am really at a loſs how to account for a navigator's proceeding, ſo contrary to common ſenſe, experience and uſeful knowledge, that every experienced ſeamen is ſuppoſed to have. They perhaps may think, that they have brought the Lunar Obſervations to ſuch exactneſs, that they can make the land to a mile, if ſo, they ſhould not forget there is ſuch a thing as Latitude, which is their principal guide in coming into the Channel, and the next thing too, that is, the ſoundings, and the third thing, is to ſteer ſuch a courſe as to keep in the proper parallel of latitude for running up the Channel, until they have ſhoalened the water to a certain depth, and then to haul in, to make the land, which ſhould be the Lizard. This is the moſt rational method of coming into the Channel and making the land, and ſure I am, there is no new fangled method of Lunar Obſervations for finding the Longitude, will ever be, or can be compared with the old way, or method of coming into the Channel, viz. *Latitude*, *Lead*, and *Look-out*, which muſt have been intirely neglected by the ſhip I have been ſpeaking of, or they could never have made ſuch an enormous, and ſo dangerous a blunder.

Another miſtake happened very lately, nearly as great as that of the Newfoundland ſhip. In the ſummer, a ſhip from Halifax, had nearly run upon the Iſlands of Scilly, going at a great rate with a freſh gale, and a fair wind, and had nearly run on the Rocks before they diſcovered their danger, and it was with difficulty they could clear the Rocks of Scilly; this ſhip muſt alſo have come into the Chops of the Channel with great inattention, without paying any regard to latitude or ſoundings, or ſhe could not have run into the danger ſhe was in. I muſt here obſerve, when the navigator gives up the idea of latitude and ſoundings, I cannot ſee what he has to guide him, his mind muſt be filled with caprice, whim, and idle fancies, and if ſo, it is no wonder if he runs into the moſt wild extreme of thinking, which will carry him into the moſt iminent danger. I moſt ſincerely wiſh that the miſconduct and illmanagement of thoſe ſhips that I have mentioned, may be a caution

Another inſtance of a miſtake made coming into the Channel.

to navigators in future, and that they will be governed by reaſon and experience when coming into the Channel, of which I ſhall ſpeak more fully in the ſucceeding pages.

The loſs of the Nancy Packet on the Iſlands of Scilly from India.

I muſt here beg leave to mention the loſs of the Nancy Packet, from India, on the Rocks of Scilly, ſome few years ago, and which is a moſt melancholy inſtance of a Man's ſtupidity and folly, or rather, that he muſt have been bereaved of his ſenſes and reaſon. This ſhip was running up Channel in a fair way to the ſouthward of Scilly, at midnight the Captain took it in his head to haul to the northward, and ſteer nearly north, with a ſtrong weſterly wind, the ſhip run on this courſe for ſome time, and ran ſtem-long againſt the ſteep Rocks of Scilly, daſhed herſelf to pieces and ſunk immediately, and every ſoul periſhed; ſhe ſunk in 7 or 8 fathoms water. This ſhip had a great number of paſſengers on board. Several gentlemen and a number of ladies and children all periſhed in their beds, without having time to ſay, Lord have mercy upon them. It is a melancholy circumſtance to think of ſo many innocent ſouls being loſt in an inſtant, through the ignorance or injudicious management of an unſkilful Navigator.

How the loſs of the Nancy Packet on the Iſlands of Scilly came to be known.

The way we came to know ſo particularly the loſs of the Nancy, was this; a Tranſport Ship from abroad was alſo coming up the Channel, and was ſome ſmall diſtance a-ſtern of the Nancy, ſaw her light, and when the Nancy hauled to the northward, the Tranſport *(like a Fool)* followed and ſteered after her light, but with ſome caution, and a good *look-out*, they were ſoon ſurprized, by coming at once into ſmooth water, when juſt before they had had a very great ſea. They ſaw no land, but heard the noiſe of breakers, they inſtantly ſuppoſed themſelves in danger, came to an anchor in 4 fathoms water, all ſtanding, handed their ſails and lay there till day-light, when they ſaw the remains of the wreck of the Nancy within them, her maſts being only above water, and that they had come into an opening, or kind of a Channel between the Rocks, where they lay very ſmooth, though the ſea was very high without them, and when the weather moderated, it was with much difficulty they could find their way out of the place they had been at

anchor

anchor in, and that Providence had ſo kindly conducted them into, by which they ſaved their lives and the ſhip alſo.

Some farther Remarks on the Loſs of the Nancy, and the Conduct of the Maſter of the Tranſport.

Further remarks on the loſs of the Nancy Packet.

The conduct of the Commander of the Nancy Packet, can by no means be accounted for, to alter his courſe at midnight and haul to the northward, was an act of madneſs and folly, for which he paid very dearly; inſtead of his hauling to the northward, had he continued to ſteer to the eaſtward, and keep the parallel of latitude he was in, he would have gone ſafe, or if he had brought too and ſounded, to know how far he had got up the Channel, his ſoundings would have told him he was a-breaſt of Scilly; he would have had 60 fathoms water, he might have made ſail again, and ſteered to the eaſtward a proper courſe, to keep his parallel of latitude, and have had run enough until day-light, or until he had ſhoaled his water unto 56 or 55 fathoms, when he might have hauled to the northward with ſafety, and made the Lizard, and all would have been well.

The extraordinary conduct of the Maſter of a Tranſport.

The Maſter of the Tranſport following the Nancy was alſo madneſs in extreme, his following the light of a ſhip, whom he had before been following whilſt ſhe was ſteering a proper cauſe up the Channel, was right enough, but to follow her light when ſhe hauled to the northward, was a plain proof of his want of knowledge, ſkill, or manly reſolution; and he may be reckoned amongſt thoſe, of which there are too many, who think any body, or every body, know more than themſelves, and therefore follow thoſe who are as ignorant as they are themſelves, and run into danger and deſtruction, without knowing what they are about. Such a man does not deſerve to be reckoned amongſt the number of Rational Beings, and Providence was much kinder to him than he deſerved, and it is plain that he can have nothing to ſay for himſelf.

Obſervations on the conduct and diſpoſition of ſeamen.

I muſt here obſerve, that there are a ſort of men who endeavour to be thought very clever in their profeſſion, and we will allow them ſome

merit, but they do not take any pains or proper methods to convey any part of their knowledge, that long ſervice, long life, and experience, has furniſhed them with, of which there cannot be ſo great a variety, as in the ſea ſervice. I have converſed with ſeamen, whoſe converſation has given me great pleaſure, and have been inſtructed by it, and had their converſation been committed to writing, it would have done them credit; there are others, who hold themſelves ſo high, that they are above communicating any part of their knowledge to others, thinking it will make them as wiſe, as they themſelves are; this is a meaneſs of ſpirit, and narrowneſs of ſoul, and yet I have known men who held themſelves high, and were thought to be men of good underſtanding, to be of this diſpoſition, and who thought little of thoſe whom they imagined to be of inferior rank or knowledge, to themſelves, as men of their profeſſion. But this I call not greatneſs of mind, nor goodneſs of heart, for he who freely communicates his uſeful knowledge to the Publick, for their benefit, is truly good and great, and is a friend to mankind in general.

Remarks on a ſhip coming into the Channel with a Time-Piece.

I muſt here mention a circumſtance relating to a ſhip coming into the Channel but a few years ago from Newfoundland, who had a Time-Piece on board for finding the Longitude at Sea; her Commander would not let them heave the lead, or bring too to ſound, in order to find their depth of water, but run by the Longitude of the Time-Piece, and made the land very exactly without ſoundings. All this might be very clever, but where is the merit? If any, it is in favour of the Time-Piece, not in him who conducted the ſhip. Any other man might have done the like with the ſame advantage, but as he had that valuable inſtrument, he might have made better uſe of it, had he acted in the manner hereafter-mentioned, which might have been of general uſe and benefit to mankind in the ſea-faring way, and by that have merited the thanks of the Public, which is the greateſt of all rewards to a generous mind.

Had this ſaid Commander, when he was approaching the Channel of England, bethought himſelf that he had a Time-Piece, to inform him of his longitude as he approached the Channel, and of courſe, the exact

diſtance

diſtance from the land, which is an advantage other navigators have not. With this advantage, if he had endeavoured to ſtrike ſoundings on the outward edge of the bank in coming into the Channel, and had kept in the proper parralel of latitude, between 49° 30′ and 49° 20′ north, and had ſteered to the eaſtward in that parallel, and to have ſounded every 10 or 12 miles of the ſhip's run, and to have noted down in the Log Book the particular ſort of ſoundings and depth of water they had in every 10 or 12 miles that the ſhip ran to the eaſtward, until they ſhoaled their water to 56 or 55 fathoms, and when they had that depth of water, then to have hauled to the northward, and made the land, which land ſhould have been the Lizard, he would, by the advantage of his Time-Piece, been able to have ſaid with great certainty how far each depth of water was to the weſtward of Scilly; what depth they had when a-breaſt of Scilly, and what depth of water they had to the eaſtward of Scilly, or to the weſtward of the Lizard, and the depth of water they had when they hauled in to make the land. This would have been of great utility to nazigators in general, and for which he would have deſerved great praiſe; but things were reverſed.

Advantages that might have been made by the Time-Piece.

I have dwelt long upon the ſubject of entering into the Engliſh Channel, and muſt beg leave to ſay ſomething more of it. I am, and have always been much aſtoniſhed, that any navigator of common ſenſe, cool reflection, or ſedate thought, would ever attempt to run for the Engliſh Channel without being ſure of his latitude: a blind man may as well pretend to thread a needle, or a blind horſe walk a ſtraight line, and yet we ſee, from the ſeveral inſtances I have mentioned, it has been often attempted, and I am afraid will ſtill be attempted by injudicious and thoughtleſs men, to the great loſs of mens lives, valuable ſhips, and rich cargoes, and to the great diſgrace of Britiſh Navigators; many more unpardonable inſtances of ignorant blunders I could mention, which would ſurprize us, were they not confined to a few of our worſt ſort of navigators; ſuch ſhould be pointed out like a bad ſheep in a flock. To think of a ſhip's running up the Briſtol Channel, inſtead of the Engliſh Channel, ſome running on the Rocks of Scilly, and ſome on Uſhant, and

Obſervations and remarks on ſhips coming into the Channel incautiouſly, and the many accidents that have happened therefrom, through the injudicious conduct of navigators.

and ſome, after they had made the land, to run a-ſhore on the Start, with a fair wind, ſome on the Gaſkets, ſome on the Iſlands of Guernſey and Jerſey, ſome on the Coaſt of France, ſome on the Coaſt of England, on Beachy Head, ſome in Boulogne Bay, with a fair wind, where they were inſtantly wrecked. Some of our great ſhips committed this blunder in Boulongne Bay, coming from Spithead to the Downs, at the end of the laſt War, where they were obliged to anchor in the Night in very ſhoal water; if it had come on to blow, they muſt inevitably have been loſt, as a Convoy from Portſmouth to the Downs was in the late War, by the injudicious conduct of the Man of War, who was their Convoy. Another inſtance of the ſame kind happened to another Convoy from Portſmouth to the Downs, where the Convoy was in great danger, and all of them would have been loſt, had they followed the Man of War, who was loſt upon Beachy Head a little to the weſtward of it. A very fine large Store-ſhip, with a King's Officer on board, who commanded her, being of the ſame Convoy, was loſt a little to the eaſtward of Chicheſter, all the reſt of the Convoy, by their prudence and good conduct, got ſafe to the Downs; many other inſtances might be mentioned of the great loſſes that have happened through our miſconduct in the navigation of the Channel. The miſcarriages I have juſt mentioned, happened in the courſe of the late War, and were principally owing to the injudicious conduct of the Ships of War that had the charge of the Convoy.

Remarks and obſervations on a ſhip's coming into ſoundings without an obſervation, and bound up the Engliſh Channel, with directions how ſhe may proceed. When that is the caſe, ſhe ſhould be governed by her ſoundings.

I muſt ſay ſomething more of the Engliſh Channel, I will ſuppoſe a ſhip coming out of the Ocean, and bound up the Channel in ſtormy thick hazy weather, with the wind weſterly, and they have not had an obſervation for 3 or 4 days, and the run for every 24 hours has been great, they are looking out to ſtrike ſoundings, or I will ſuppoſe them to have ſoundings in the Chops of the Channel, at 95 or 100 fathoms water, which you will have 50 leagues to the weſtward of Scilly, in latitude 49° 20′, or 49° 30′N. being the proper parallel of latitude for a ſhip to keep in when coming up the Channel. I muſt here beg leave to aſk the queſtion, what a ſedate navigator would do, or how he would conduct his ſhip under thoſe circumſtances,

ſtances, his latitude, the ſure guide, is uncertain, his run has been great for the laſt 3 or 4 days, the weather ſtormy, the ſhip's courſe cannot be ſuppoſed to be very exact, and he has had no obſervation for 3 or 4 days, his latitude by no means to be depended upon; Will any man in his ſenſes be ſo imprudent as to run for the Engliſh Channel, under thoſe circumſtances? I ſhould ſuppoſe not. For he cannot know whether he is to the ſouthward, northward, or in the ſtream of Scilly, that is to ſay, in the latitude of Scilly. In this ſtate of uncertainty, what is to be done? An ingenious navigator is now in great anxiety, trouble, and care. I will ſay, if the weather is ſtormy, and thick hazy weather, I will lay the ſhip too, if the wind was to the ſouthward of the weſt, I would lay her head to the ſouthward, if the wind was to the northward of the weſt, I would lay her too, with her head to the northward, and let her drive as near the parallel of latitude I ſuppoſed I was in, as I could, and keep frequently ſounding, in order to ſee how I ſhoaled the water, and ſo would continue till I had an obſervation, or until the weather moderated and cleared up, and that I could ſee about me for ſome leagues.

But again, if I had ſtruck ſoundings in 95 or 100 fathoms, and the weather was ſtormy and thick and hazy, with the wind weſterly, and I had not had an obſervation for three or four days, and the ſhip's run for every 24 hours had been very great, and I was looking out to ſtrike ſoundings, or I will ſuppoſe I had ſoundings in the Chops of the Channel at 95 or 100 fathoms, as before-mentioned. When I had ſtruck ſoundings, and the weather ſuppoſed to be as above-mentioned, I would in that caſe, inſtead of laying too, if the ſtorm was not too violent, and my ſhip could carry her courſes, or cloſe reeft topſails, I would haul my wind to the ſouthward, and keep my lead going, and ſound every hour, and if I found that I deepened the water in ſtanding to the ſouthward from 95 or 100 fathoms to 110, 115, or 120 fathoms in the ſpace or diſtance of 10, 15, or 20 miles. In that caſe, I ſhould ſuppoſe myſelf to the ſouthward of Scilly, being ſure of my ſoundings, I would wear ſhip, and ſtand to the northward upon a wind, and if I ſhoalened

To know by your ſoundings when you are to the ſouthward of Scilly.

ſhoalened the water again to 100 or 95 fathoms, this would again convince me that I was to the ſouthward of Scilly, and in fair way for entering the Channel.

To know when you are in the ſtream or latitude of Scilly, by your ſoundings.

I with great caution would ſtand to the northward, and keep ſounding every Hour, and if I ſhoalend the water to 90, 85, 80, 75 or 70 fathoms. I ſhould ſuppoſe myſelf with theſe ſoundings in the ſtream of Scilly, or latitude of it. I would then wear ſhip and ſtand to the ſouthward upon a wind, and if I found I deepened the water from 70, to 75, 80, 85, 90 or 95 fathoms in the diſtance of 15, 20 or 25 miles run, I would then ſuppoſe myſelf, when in 90 or 95 fathoms water, to be, from 15 to 20 or 25 miles to the ſouthward of Scilly. In this depth of water, 90 or 95 fathoms I ſhould ſuppoſe myſelf 46 or 48 leagues to the weſtward of Scilly. You will ſhoal your water as you come nearer Scilly. I would continue to keep my wind and ſtill ſtand on ſhort tacks, taking care to keep in the parallel of latitude ſuppoſed to be in, wherein I thought my ſoundings were 20 or 25 miles to the ſouthward of Scilly, taking care not to go to the northward of 62 or 64 fathoms when ſtanding to the northward, and when ſtanding to the ſouthward, not to ſtand into more than 68 or 70 fathoms; and as you drive up the Channel, you will have ſoundings in the fair way 63 or 64 fathoms. As you draw near Scilly, you may be ſure theſe ſoundings will carry you 8 or 9 leagues to the ſouthward of Scilly; if you ſhoal your water, you are going nearer to Scilly, that is to ſay, you are going to the northward; if you deepen the water, you are going farther from Scilly, and are going to the ſouthward, when Scilly bears north of you, diſtance 7 or 8 or 9 leagues, you will have 62, 63 or 64 fathoms water, fine white ſand.

To know when you are in the fair way for entering the Channel, by your ſoundings.

To know when you are a-breaſt of Scilly by your ſoundings.

I ſuppoſe the weather ſtill continues ſtormy, and my ſhip is driving up towards the Chops of the Channel, or is ſtanding on ſhort tacks to the northward and ſouthward, taking care not to go to the northward of the ſtream of Scilly, by my ſoundings as before-mentioned; that is to ſay, if I am ſtanding to the northward, and I ſhoal the water to 64,

62,

62 or 60 fathom, I ſtill ſuppoſe myſelf to the weſtward of Scilly; with thoſe ſoundings I will ſuppoſe myſelf in the ſtream of Scilly, to the weſtward of it: I will then wear ſhip and ſtand to the ſouthward, and when I deepen the water to 62, 63, 64, or 65 fathoms, I will endeavour to keep in that depth of water, and ſhould ſuppoſe myſelf in the fair way between Scilly and Uſhant, and as the weather is ſtill ſtormy, and I have had no obſervation, in this caſe my ſoundings are my only guide, I will endeavour to keep in that parallel in which I had 63 or 64 fathoms, and as I ſtill ſuppoſe my ſhip driving to the eaſtward, I muſt be very attentive to my lead, and keep conſtantly ſounding, and as I ſuppoſe my ſhip driving in the parallel in the true direction of the Channel, as near as I can keep her, I ſhall know by my ſoundings how ſhe goes to the eaſtward and approaches the Channel, by the ſhoaling of the water, and when I find ſhe has ſhoalened the water from 64 to 63 or 62 fathoms in the ſame parallel I was in when I had 64 fathoms water, fine white ſand, I ſhall then ſuppoſe Scilly bears north from me 8 or 9 leagues.

Soundings in the fair way in entering the Channel.

I will ſuppoſe the weather ſtill continues bad, thick, and hazy, and I have had no obſervation, and I cannot ſee any diſtance about me, I by my ſoundings ſuppoſe my ſhip has entered the Channel, but dare not attempt to make the land. The moſt prudent thing I could do, is to let my ſhip drive to the eaſtward in the parallel I had my laſt ſoundings 64 or 62 fathoms, when I ſuppoſe Scilly bore about north of me 8 or 9 leagues, I muſt be careful to keep my parallel of the Channel, and to keep my lead going, that I may know by my ſoundings how the ſhip drives up the Channel, having no other guide. If my ſhip was where I ſuppoſed her when I had 64 or 62 fathoms water, ſhe is driving up the Channel to the eaſtward, in the parallel of the Channel, ſhe will ſhoal her water very gradually for 17 or 18 leagues, which will bring the ſhip nearly a-breaſt of the Lizard, and when I have ſhoalened the water to 55 or 54 fathoms, I will ſuppoſe myſelf to be as far to the eaſtward as the Lizard, and if the weather is ſtill ſtormy, I will let my ſhip drive ſomething to the northward, I will admit her to drive EbN.

Soundings in the fair way between Scilly and the Lizard.

Soundings a-breaſt of the Lizard in 55 or 54 fathoms water, you will be 7 or 8 leagues diſtance from it.

The Lizard bearing from NbW. to NbE. diſtance 3 leag. in 45 fathoms water.

or ENE. until I ſhoal the water from 55 or 54 fathoms to 50 or 46 fathoms, in which depth I would endeavour to let my ſhip drive to the eaſtward, and not to go under 46 or 45 fathoms, to the northward, and would let my ſhip drive to the eaſtward in 45 fathoms, to the northward, and 50 fathoms to the ſouthward between the Lizard and the Start; this depth of water will carry you to the ſouthward of the Eddy-Stone.

Soundings between the Lizard and the Start.

I will ſuppoſe the wind to change from weſt to eaſt, ſtill blowing hazy weather, ſo that they cannot ſee the land, but the weather becomes more moderate, and the ſhip can carry ſail and ſhe can turn to the eaſtward, if this ſhould happen to be the caſe, and the ſhip is ſuppoſed to be between the Lizard and the Start, and is turning to the eaſtward between thoſe Head Lands, and they have not ſeen the land, the ſhip may ſtand to the northward into 44 or 42 fathoms, and when ſhe ſtands off to the ſouthward, towards the Coaſt of France, ſhe may ſtand into 50 or 52 fathoms, and when the ſhip is got ſo far to the eaſtward as to be a-breaſt of the Start Point, that is to ſay, the Start Point bears NbE. to NbW. 4 or 5 leagues, they will have 42 or 44 fathoms water.

The depth of Water a ſhip may ſtand into each way when turning up the Channel between the Lizard and the Start, with an eaſterly wind.

Soundings a-breaſt of the Start Point.

Again, if it ſtill continues to be blowing, thick, hazy weather, ſo that the land cannot be ſeen, and you are ſtill turning to the eaſtward, between the Start and the Iſle of Wight, you may ſtand to the northward in 32 or 30 fathoms, and towards the Coaſt of France you may ſtand into 38 or 40 fathoms. Off Portland in the fair way, you will have 34 fathoms in the fair way; a-breaſt of the Iſle of Wight, you will have from 25 to 30 fathoms. When you have 25 fathoms water, Dunnoſe will bear from NbW. to NbE. diſtance 3 or 4 leagues.

Soundings between the Start and the Iſle of Wight.

Soundings a-breaſt of Dunnoſe on the Iſle of Wight.

I will ſuppoſe the ſame wind and weather to continue, and you are turning to the eaſtward between the Iſle of Wight and Beachy Head, you may ſtand to the northward, towards the Engliſh Coaſt, to 24 or 22 fathoms, and towards the Coaſt of France, to 34 or 36 fathoms, as you paſs the Owers ſtand no nearer than 22 or 21 fathoms, if you keep without 20 fathoms, you need fear no danger from the Owers, and as you

Soundings between the Iſle of Wight and Beachy Head.

The Owers.

draw ſo far to the eaſtward as to be near Beachy Head, come not nearer the ſaid Head-land than 20 fathoms, nor nearer the French Coaſt than 30 or 34 fathoms.

Soundings off Beachy Head.

A little to the eaſtward of Beachy Head, lies the Royal Sovereign Shoal, on which there is but 17 or 18 feet water; the Twart-mark for it is Pemſey Church, NNW. 6 or 7 miles, and the Point of Fairleigh NE. 11 or 12 miles, the weſtermoſt of the Seven Cliffs a ſail's breadth open with Beachy Head, will carry you upon it. This Shoal lies nearly NbE. and SbW. it is in length about 50 fathoms, and is but narrow, the water is ſhoaleſt towards the ſouth end; you will have from 17 to 18 fathoms a little without it, keep in 20 fathoms, and you will be in no danger from this Shoal; that depth of water will carry you to the ſouthward of it.

A caution.

Royal Sovereign Shoal.

I will ſuppoſe the wind ſtill eaſterly, and you are turning to the eaſtward between Beachy Head and Dungeneſs, you may in this track ſtand to the northward into 20 or 18 fathoms, and to the ſouthward towards the Coaſt of France into 28 or 30 fathoms, and as you draw near Dungeneſs, you will have leſs water, you may ſtand to the northward into 16 or 15 fathoms, and to the ſouthward into 18 or 19 fathoms, you will have 20 fathom near the Ripraps, to which you are approaching when you ſtand to the ſouthward.

Soundings between Beachy Head and Dungeneſs.

I will ſuppoſe the wind ſtill eaſterly, and hazy weather, and you are turning to the eaſtward, and have got as far as Dungeneſs, you may round Dungeneſs in 12, 13 or 14 fathoms water, diſtance 1½ or 2 miles from it. I will ſuppoſe you are ſtill turning to the eaſtward between Dungeneſs and the South Foreland, you may in this track ſtand to the northward into 13 or 14 fathoms, and to the ſouthward into 18 fathoms. A ſhip turning up Channel with a ſtrong NE. wind, may occaſionaly anchor to the weſtward of Dungeneſs in 11 or 12 fathoms water, the Neſs bearing about ENE. but I do not recommend anchoring here in a great ſhip but in caſe of neceſſity; this is near the Ripraps, the bearings of the SW. end of the ſame, bears from Dungeneſs EbS. diſtance 10 or 11 miles, come not nearer them than

Soundings between Dungeneſs and the South Foreland.

Dungeneſs.

18 fathoms, for there are 20 fathoms cloſe to them. I have croſſed the Ripraps ſeveral times, and found not leſs than 3½ or 4 fathoms. A great ſhip has no occaſion to ſtand nearer the ſaid ſhoal than 18 or 19 fathom; the Ripraps lie NE. and SW. is very narrow, but in length about 4 leagues, the SW. end bears from Dungeneſs EbS. 10 or 11 miles, and the NE. end bears from the South Foreland SE. 10 miles, and WNW. from Calais Cliffs; the ſhoaleſt part of it is neareſt the NE. end, where there is not more than 15 or 16 feet at low water. On ſpring tides there are in ſome places 21, 22 and 23 fathoms cloſe to them; on either ſide go not nearer them than 18 fathoms, 20 fathom is cloſe to them.

Ripraps.

I ſuppoſe your ſhip ſtill turning to the eaſtward, between Dungeneſs and the South Foreland, as before mentioned; you are not to ſtand to the ſouthward towards the Ripraps, into more than 18 or 19 fathoms, nor to the northward towards the ſhore, into leſs than 14 or 13 fathoms, 14 fathoms will carry you clear of the Rocks that lye off Folkſtone, and as you approach near Dover, you may keep towards the ſhore in 11 or 12 fathoms. Ships anchor in Dover Road in 9, 10, or 11 fathoms water, St. James's Church in the Valley, bearing from NbW. to NWbN.

Rocks off Folkſtone.

Dover.

Between Dover and the South Foreland, you may keep in 11 or 12 fathoms water, and you may round the South Foreland in 10 or 11 fathom, and when you have got to the northward of the Foreland, and are running for the Downs, you may keep in 8 or 9 fathoms water, until you bring Upper Deal Mill, on with Deal Caſtle, where you may anchor in 8 or 9 fathoms water in the Downs.

South Foreland.

Downs.

Some Remarks and Obſervations in coming into the Downs in bad, thick or hazy Weather, or in the Night time.

I will ſuppoſe a ſhip off Dungeneſs, or between Dungeneſs and the South Foreland, in bad, thick and hazy weather, or in the night time, and ſhe cannot keep the ſea, but is under the neceſſity of running for the

Directions for a ſhip that is obliged to run for the Downs in ſtormy weather, or in the night time.

the Downs, wind at SW. ſuppoſed to blow a ſtorm; in this caſe the ingenious navigator is put to his tryal, and his ſituation is truly diſtreſſing, it is a ſtorm, and night coming on, and he cannot ſee about him, the narrowneſs of the Channel will not admit of his laying his ſhip too to drive, and there is no poſſibility of anchoring, being entirely expoſed to the violence of the winds and waves, he has nothing left for his hope, but to run for the Downs; the queſtion is, how he is to conduct himſelf under thoſe diſtreſſing circumſtances. This being a a ſituation I have been in, as well as many others, I ought to be able to deſcribe it, at a time when life and ſhip and all is at a ſtake, I will therefore endeavour to do it to the beſt of my ability. Being in a ſhip in the circumſtances and ſituation before mentioned, and I am obliged to to run for the Downs at all riſques, the firſt thing to be done is, to take your ſoundings from the Engliſh ſhore, keep in 14, 15 or 16 fathoms water, or between 14 and 16 fathoms, 15 is the beſt depth; your courſe will be between the NE. and NEbE. your ſoundings muſt be your principal guide, do not carry too much ſail to prevent your getting true ſoundings, and be ſure to keep a good look-out for the South Foreland lights, which, when ſeen, will be a good guide for you, keep one of the Foreland lights in ſight, and you cannot run a-ſhore, and then look out for the Pitch of the South Foreland; when you ſee it, you muſt go very near it, when you are got ſo far to the eaſtward, as to be a-breaſt of Dover, you may keep in 11 or 12 fathoms, and you muſt round the South Foreland in 10 or 11 fathoms, and the moment you are off the Pitch of the Foreland, you muſt haul to the northward, and ſteer north or NbE. in ſteering this courſe you will ſhoal the water from 10 or 11 fathoms off the Pitch of the South Foreland to 9 and 8 fathoms, as you run to the northward for the Downs, go not into leſs than that depth of water, and when you have opened the South Foreland Lights to be ſeen; when you are to the northward of the Foreland, keep the Upper Light-Houſe to bear SW. by Compaſs, and ſteer to the northward with the Lights on thoſe bearings,

Caution for running for the Downs in night time, in ſtormy weather. I have ſaid keep in 14, 15, or 16 fathoms water, 14 fathoms will carry you clear of the rocks which lie off Folkſtone, 15 fathoms is the beſt depth to keep in as you run along ſhore to the eaſtward.

bearings, keeping in 8 or 9 fathoms water, until you come a-breaſt of Deal Town, which you may gueſs by the Lights in the ſhore, and anchor in 8 or 9 fathoms water, taking great care how you bring your ſhip to an anchor, and give her a great ſcope of cable, before you attempt to bring her up.

I muſt here obſerve, that in bringing a ſhip up in the Downs in a ſtorm, and it may happen to be a ſtrong flood tide, great care and caution ſhould be taken in bringing the ſhip to an anchor; it may be thought that one anchor is not ſufficient to bring her up, and that two are abſolutely neceſſary to bring the ſhip up: in that caſe, take care to keep the fore ſtay ſail, or ſuch ſail as may be then ſet, to give the ſhip freſh way through the water; I will ſuppoſe you want to bring your ſhip too with her head to the weſtward, you will ſtarboard your helm until you bring the wind to be upon the beam, then let go the weather anchor, and ſhoot the ſhip from it, and pay out the cable as faſt as you can, and when you think ſhe is ſhot far enough from her anchor, then let go the lee anchor, haul down the fore ſtay ſail, and bring the ſhip up between both her anchors, and veer away a large ſcope of cable, and bring the ſhip up, taking care that both the cables bear an equal ſtrain, and make the ſhip as ſnug as poſſible, by ſtriking yards and top-maſts, &c. if they have not been ſtruck before. See page 84 for bringing a ſhip up in ſtormy weather.

Some further Remarks for rounding the South Foreland in hazy Weather, or in the Night time, which are ſtrictly to be obſerved.

A caution for ſhips running for the Downs in hazy weather, or in the night time.

When rounding the South Foreland in hazy weather, or in the night time, it is to be obſerved the flood tide ſets from the Pitch of the Foreland to the South Sand Head, in a NE. direction, and runs very ſtrong, which will carry your ſhip on the ſaid ſand, if you are not very attentive to your ſoundings, if your ſhip is off the Pitch of the Foreland, and you round it in 10 or 11 fathoms water, and you haul to the northward and ſteer N. or NbE. and you ſhoal your water to 9 or 8 fathoms, keep in that depth of water, it will carry you into the Downs, where you

you may anchor in the aforeſaid depth of water. If you keep in 12 or 13 fathoms water, it will carry you on the South Sand-Head, but if you keep in 16 or 17 fathoms, that depth of water will carry you without the South Sand-Head to the eaſtward of it.

NOTE.

It is to be obſerved that, I have not reckoned the variation in the bearings of the Foreland Lights for SSW. allowing variation in the SW. ℔ compaſs, the South Foreland Lights, when they are in one, bear WbS. with the Lights in one is a good mark to carry you clear of the South Sand-Head; if you keep the Lights in one, you may ſtand to the eaſtward or weſtward with ſafety.

A General Remark, to be particularly obſerved.

If your ſhip is driving up the Channel in ſtormy or hazy weather, or in the night time, between any of the Head-Lands in the Channel, with the winds weſterly or eaſterly, if you can keep your ſhip between the depths of water mentioned for your ſhip to turn in, then your ſhip may drive up or down the Channel in ſafety.

An Account of the Soundings about the Iſland of Scilly, with the Bearings, Depth of Water, and Sort of Soundings.

Soundings to the Southward of Scilly.

In ſight of Scilly Light-Houſe, it bearing N. to NbE. 6 or 7 leagues, you will have ſoundings at 59, 60, or 61 fathoms water, fine white ſand with black ſpecks, and pieces of ſhells.

Scilly bearing N. to NbE. diſtance 8 or 9 leagues, you will have ſoundings at 63 or 64 fathoms water, white ſand with broken ſhells.

Scilly bearing NNE. to NbE. diſtance 12 or 13 leagues, you will have ſoundings at 68 fathoms water, fine white ſand with ſome ſmall pieces of ſhells.

Soundings

Soundings to the Weſtward of Scilly, in the Stream of it.

Scilly bearing E. to EbS. or EbN. diſtance 7 or 8 leagues, you will have ſoundings at 55 or 56 fathoms water, coarſe brown ſand and gravel ſtones, with ſome pieces of ſhells.

Scilly bearing E. 10, 11, or 12 leagues, being in the ſtream of Scilly, you will have ſoundings at 58, 59, or 60 fathoms water, fine grey ſand, mixed with white ſand.

Soundings to the Northward of Scilly.

Scilly bearing SSE. diſtance 8 or 9 leagues, you will have ſoundings at 54 or 53 fathoms water, fine white ſand and ouzy ſand; Scilly bearing SSE. to S. 6 or 7 leagues, you will have ſoundings at 52 or 51 fathoms, fine white ſand and ouzy ſand.

Soundings to the Eaſtward of Scilly, in the Stream of it.

Four, 5, or 6 leagues to the eaſtward of Scilly, you will have ſoundings at 48, 50, or 52 fathoms water, white and grey ſand mixed, 51 or 52 fathoms, will carry you without the Wolf Rock, that is to ſay, to the ſouthward of it, keep without 50 fathoms, you will go clear of the Wolf Rock.

An Account of the Soundings about Uſhant, with the Bearings, Depth of Water, and ſort of Soundings.

Sovudings to the Southward of Uſhant.

SW. from Uſhant, 9 to 12 leagues diſtance, you will have ſoundings from 66 to 75 and 77 fathoms water.

Soundings to the Weſtward of Uſhant.

Six, 8, or 10 leagues to the weſtward of Uſhant, you will have ſoundings at 68, 69, 70, or 72 fathoms water.

Fifteen, 20, 25, or 30 leagues to the weſtward of Uſhant, you will have ſoundings at 75, 77, 80 to 85 fathoms, courſe ground.

Uſhant bearing E5°N. diſtance 59 leagues, had 59 fathoms water, large gravel ſtones and ſcollop ſhells, with ſome grey ſand, latitude in 48° 15′N. Cape Clear bearing N15′W. diſtance 60 leagues.

Twelve miles to the SW. of the laſt ſoundings, had 98 fathoms water, the ſame ſort of ſoundings, Uſhant bearing E11′N. diſtance 66 leagues, had ſoundings at 105 fathoms water, coarſe grey ſand with ſcollop ſhells, and ſome grey and black gravel ſtones as big as peaſe, latitude in 47° 56′N. Cape Clear NbW. diſtance 66 leagues.

Soundings to the Northweſt of Uſhant.

NW. from Uſhant, from 10 to 12 leagues, you will have ſoundings at 71 and 72 fathoms.

NW. from Uſhant, from 8 to 10 leagues, you will have ſoundings at 66, 68, and 69 fathoms.

NW. from Uſhant, from 4 to 5 leagues, you will have ſoundings at 59 to 64 fathoms.

Soundings to the Northward of Uſhant.

N. from Uſhant, 9 or 10 leagues, you will have ſoundings from 64 to 66 fathoms.

N. from Uſhant, 4 or 5 leagues, you will have ſoundings from 59 to 61 fathoms, the ground here about is coarſer than what it is on the Engliſh Coaſt.

Soundings on the Coaſt of Ireland.

The Old Head of Kinſale, NW½N. diſtance 9 or 10 leagues, had 50 fathoms water, white ſand with ſome black ſpecks and pieces of ſhells.

Cape Clear NNE½E. diſtance 17 or 18 leagues, had 85 fathoms water, fine white ſand with large Hake's teeth.

Cape Clear N.EbN. diſtance 14 or 15 leagues, had 70 fathoms water, coarſe brown ſand, with ſome pieces of ſhells.

Cape Clear NbE. diſtance 5 or 6 leagues, had 66 fathoms water, fine brown ſand, with ſome ſpecks of black ſand.

Tow Head bearing W 14° S. diſtance 16 leagues, had 45 fathoms water, coarſe gravel ſtones with ſome ſhells.

Entering the Channel,

Having given Directions and all neceſſary remarks for a ſhip entering the Engliſh Channel in ſtormy and hazy weather, and driving up the Channel without an obſervation, and alſo in turning up the Channel in thick hazy weather, without ſeeing the land, by the depth of water, or ſoundings only, I ſhall now give ſome general directions for a ſhip's coming out of the Ocean, for her entering and ſailing up the Engliſh Channel in fair or moderate weather.

Some uſeful Rules to be obſerved in coming into the Engliſh Channel.

Variation to be allowed in the courſe ſteered.

I ſhall ſuppoſe a ſhip in the Ocean, and about entering the Engliſh Channel, I have mentioned in my former directions for coming into the Channel, the variation is a ſure guide, as mentioned in the Book of my Voyage to India, which ended in 1764, and was publiſhed in 1765, and in that period of time the variation has increaſed to be 24 degrees in the Engliſh Channel, was then 21° 10′W. off the Lizard, to be at this preſent year 1790, 24° 22′W. which, I ſhall add to the remarks of the Channel I am now making, which the navigator is to obſerve, and to make an allowance for, in the courſe he may think proper to ſteer.

But it is to be obſerved, the variation has a quicker increaſe as you come nearer the Engliſh Channel, for in latitude 49° 20′, or 49° 30′N. which is the proper parallel to ſteer to the eaſtward in, for the Engliſh Channel, and longitude 10° 15′W. from London, or 3° 30′W. from Scilly, you will have variation at this time 22° 45′W. and have ſoundings hereabouts in 95 or 100 fathoms, fine grey ſand, 46 or 50 leagues to the weſtward of Scilly. In latitude 49° 20′N. and longitude 9° 38′W. from London, or 2° 53′W. from Scilly, you will have ſoundings 82 fathoms, gravel and pebble ſtones, 38 or 40 leagues to the weſtward

Variation and ſoundings, how far weſtward of Scilly.

of

weſtward of Scilly. In latitude 49° 20′, or 49′ 30′N. and longitude in 8° 15′W. from London, or 1° 30′W. from Scilly, you will have ſoundings at 75 fathoms coarſe white ſand, like oatmeal, with ſome pieces of ſhells, 20 leagues to the weſtward of Scilly. In this ſituation and bound up the Channel, and I ſhould happen to be taken in a gale of wind ſoutherly, I would not run for the Chanel, but would wear ſhip and ſtand to the weſtward, in order to keep my ſhip in ſea room, until the ſtorm was over, which would be more prudent than to run into the Channel, and to be entangled on a lee-ſhore. And if I was reduced to the neceſſity of laying my ſhip too in a ſtorm, or otherwiſe, it ſhould be my particular care, not to lay my ſhip too, or let her drive in the Stream of Scilly or Uſhant. In latitude 49° 10′ to 49° 25′N. longitude 7° 6′W. from London, or 0° 21′W. from Scilly, it bearing NNE. diſtance 12 or 13 leagues, you have ſoundings at 68 fathoms fine white ſand, with ſome ſmall pieces of ſhells. In latitude 49° 30′N. when you have ſoundings at 64 or 65 fathoms, white ſand, with broken ſhells, Scilly bears N. from you, diſtance about 9 leagues. In latitude 49° 23′N. ſoundings 60 fathoms, courſe brown ſand, you are WSW¼S. diſtance 34 leagues from the Start. The Lizard bears N47°E. diſtance 17 leagues, and you are 8 leagues to the eaſtward of Scilly.

Variation and ſoundings in the Channel.

In latitude 49° 37′N. variation 24° 15′W. you will have ſoundings at 52 or 53 fathoms, gravel ſtones and ſmall ſhells. The Lizard bears NWbN. diſtance 8 or 9 leagues, and the Start E36°N. diſtance 17 leagues, in latitude 49° 53′N. you will have ſoundings 45 fathoms, broken ſhells with ſome ſtones. The Start Point bears ENE½N. diſtance 9 or 10 leagues, and the land ſeen from the Deck. The Start Point ENE. The entrance of Plymouth Sound NbE. the Eddy-Stone NbW¼W. diſtance 3 or 4 leagues, diſtance off ſhore about 6 leagues, you have ſoundings 44 fathoms fine white ſand, the high land of St. Alban's bearing NE½E. diſtance 7 or 8 leagues, you will have ſoundings 34 fathoms coarſe white ſand, with gravel ſtones. Theſe obſervations were made by Mr. Nichelſon in the year 1764, when the variation off the

Off the Start Point.

Off St. Alban's. High Land of St. Alban's was 19° 20′W. but in the year 1789 nearly 22° 25′W.

Variation off the eaſt end of the Iſle of Wight in 1777. In the month of May 1777 Mr. Nichelſon, by ſeveral obſervations made by him at Spithead, at St. Helen's Road, and off the eaſt end of the Iſle of Wight, found the variation to be 22° 15′W. which nearly agreed with the obſervation made at the Academy at Portſmouth at that time.

By the above obſervations, you ſee the quick increaſe of the variation coming into the Engliſh Channel, ſo that there is no place in the World where the variation is a ſurer guide of your approach towards the land, provided you have a good obſervation of the latitude; you may alſo obſerve, that the higheſt variation in the Engliſh Channel, is off the Lizard, and that it decreaſes as you run further up. I have with great care and exactneſs, obſerved the variation coming into the Engliſh Channel, and have aſcertained the diſtance to the weſtward from Scilly. The Lizard, and Start Point, with the ſoundings as before-mentioned, all which I am ſure are exact, and may be depended on. In regard to the ſoundings, I mean the depth of water, for as to the different ſort of ſoundings, the variety is ſo great, that in my opinion little can be depended thereon, having obſerved, that you have ſeldom two caſts of the lead alike, I therefore ſhall recommend the depth of water only, with this one general rule, viz. that to the ſouthward of the proper parallel of latitude for coming into the Channel towards Uſhant, and on the Coaſt of France, the water is deeper, and the ſoundings coarſer than on the Engliſh Coaſt, being moſtly gravel with pebble ſtones; if any ſand, it will be very coarſe, whereas, on the Engliſh Coaſt, towards Scilly, 20 leagues to the weſtward of it, 9 or 10 leagues to the ſouthward thereof, and 15 leagues to the eaſtward of it, the ſoundings are white, grey, or brown ſand, ſometimes mixed with broken ſhells and Hake's teeth. In the proper parallel of latitude, or from 49° 20′N. to 49° 30′N. your ſoundings will in general be fine white, or grey ſand, ſometimes brown ſand.

Obſervation of the variation on coming into the Channel.

A general rule in reſpect to the ſoundings coming into the Engliſh Channel.

Some

Some General Rules to be obſerved coming into the Engliſh Channel.

I will ſuppoſe a ſhip in the Ocean and bound for the Engliſh Channel, the proper parallel of latitude to keep in to ſteer to the eaſtward for the entrance of the Channel is, from 49° 20′ to 49° 30′N. and when you have increaſed the variation in that parallel to 22° 45′ weſt, you will have ſoundings at 95 or 100 fathoms water, 46 or 50 leagues to the weſtward of Scilly, ſteer to the eaſtward in the aforeſaid parallel of latitude, till you ſhoalen the water to 65 or 64 fathoms, when you may be ſure Scilly bears N. of you, about 8 or 9 leagues, ſtill direct your courſe to the eaſtward, ſo as to keep in the ſame parallel of latitude 49° 20′ or 49° 30′N. till you ſhoal the water to 55 or 54 fathoms, you may with great ſafety then ſteer in NEbE. in order to make the Lizard, which you will get ſight of by ſteering ſo 3 or 4 leagues, you will then ſee the Lizard bearing NNE. or thereabouts of you, diſtance 7 or 8 leagues.

Particular directions to be obſerved in coming into the Channel, with reſpect to the ſoundings, and making the land.

To make the Lizard.

I would recommend it as a general rule for all ſhips coming into the Channel, to make the land about the Lizard, it being the propereſt place for a land fall, and then if thick hazy or bad weather comes on, you know where you are, and what courſe to ſteer; whereas I have known ſhips neglecting to make the Lizard, run up the Channel a great way without ſeeing the land, and have then met with hazy and bad weather, which has expoſed them to much danger; they then could not make the land, on account of the weather, and have been much puzzled to know how far they had got up the Channel, nay even have not been ſure what ſide of the Channel they were upon; in that ſtate of fear and confuſion, I have known a ſhip ſteer a courſe to avoid the dangers on the Coaſt of England, which has run them aſhore on the Coaſt of France, where they were loſt; whereas, If they had made the Lizard, they would have had a ſhort departure, and could have determined with great certainty where they were. When ſo taken in hazy or bad weather, and in all the practice of navigation, ſhort departures are certainly the beſt, but abſolutely neceſſary in narrow

The hazard ſhips run in not making the Lizard.

ſeas,

ſeas, like the Engliſh Channel, and as lights are placed on the Lizard, a ſhip may with great ſafety make it in the night, as well as day, the lights ſtanding ſo high that they are to be ſeen at a great diſtance, and the Lizard Point being a bold land, and ſteep too.

Soundings near the Lizard.

The Lizard bearing from NbW. to NbE. diſtance 3 leagues, you will have 45 fathoms water, coarſe gravel ſtones, with ſhells, and pieces of ſlate. The Lizard bearing N. diſtance 2 leagues, you will have 45 fathoms water, pebble ſtones and ſcollop ſhells, which ſhews there is no danger in running for this land, night or day.

They are recommended to keep the lead and log going.

I would recommend it to all thoſe who are deſirous to be well acquainted with the Channel, to keep the lead conſtantly going, when the wind and weather will permit them ſo to do, and alſo to keep the log going, though in ſight of land, the ſame as they do at ſea, which is of more uſe than many men think, for if a ſhip is ſuddenly taken in thick hazy weather, which is ſometimes the caſe, the Log Book will ſhew the courſe and diſtance from the time the land was laſt ſet, &c. and more frequently to ſet the bearing of the land, at leaſt every two hours, with the ſoundings and depth of water, they had at the time the land was ſet, by which they will be made better acquainted with the ſoundings of all the Head-lands, and off the Coaſts between them at different diſtances from the land, which will give them a more perfect knowledge of the Channel, and then they will not be ſo at a loſs to know were they were in hazy weather, or night time, taking care to note down in their Log Book, I mean the bearings of the land, and ſoundings, by which they will not only gain experience themſelves, but will alſo be inſtructive to others.

A caution to prevent miſtakes in allowing the variation.

I have been informed by perſons of undoubted veracity, that they have known thoſe who have been entruſted with the command of ſhips of great conſequence, who have ſteered the courſe up Channel by the draught of the Channel, without allowing the variation, and they inſiſted upon it, the variation was allowed in the draught, whereby they have run into great danger, and narrowly eſcaped being loſt; this is a thing

which

which very much ſurprized me, to hear that any man who had been intruſted with the command of a ſhip, or had any thing to do with the navigating thereof, could be ſo ignorant and void of reaſon. I hope there are no more ſuch ignorant Britiſh Navigators; but leaſt there ſhould, I beg leave to acquaint them, that the Channel draughts are made without allowing for the variation, it being left for the Navigator to allow the variation, as he ſhall from time to time find it encreaſe or decreaſe. The Channel draughts being made as if there were no variation, for inſtance, by the draught of the Channel, the coaſt lies, or the courſe from the Lizard to the Start, to the Iſle of Wight, and to Beachy Head, is EbN. and WbS. therefore to allow the variation, which is at this time at leaſt 22° 45′W. or two points, ſhews a ſhip bound up Channel muſt ſteer EbS. to make an EbN. courſe, which is the long ſhore courſe up Channel, and WbN. in going down the Channel. I hope this hint is ſo plain, that none can miſtake it, and that it will prevent any more blunders of the kind, which may be attended with dangerous conſequences, though I never ſhould have imagined a hint of this kind any ways neceſſary, had I not been told that there are People capable of making ſuch miſtakes.

Lying of the Land.

Increaſe of variation.

Courſe up or down Channel.

With reſpect to the allowance to be made for the variation coming into the Channel, and in the Channel, pleaſe to obſerve what follows, viz. from 20 leagues to the weſtward of Scilly, at Scilly, and as far to the eaſtward as the Lizard, you cannot allow leſs than $2\frac{1}{4}$ points weſt variation, and from the Lizard all the way up the Channel to the South Foreland, 2 points weſt variation.

Allowance of variation to be made in the Channel.

I muſt here beg leave to obſerve, the miſtaken idea of Navigators in general, in ſhaping along-ſhore courſe, or proper courſe up Channel, or what is called a Channel courſe, without conſidering the ſituation of the ſhip with reſpect to the diſtance ſhe is off the Head-land, or place ſhe is neareſt to, if too near the land, the long ſhore courſe, or Channel courſe, will carry her as near the next Head-land ſhe comes to, if the ſhip is too far off the Head-land, ſhe is then abreaſt of. The Channel courſe, will carry her as much too far off the next Head-land ſhe comes to, which

Conſiderations on ſteering a Channel courſe.

The diſtance a ſhip ſhould be from ſhore to ſteer a Channel courſe.

which ſhould be carefully avoided, when you ſhape your channel courſe, to take care neither to be too near, or too far off the land, to which I beg leave to obſerve, that it is my opinion, that a ſhip from 3 to 4 leagues diſtance from any Head-land ſhe is near, or abreaſt of, ought to ſteer the Channel courſe as near as poſſible, and if ſhe does, ſhe will be the ſame diſtance off the next Head-land ſhe comes to, as ſhe was from the laſt Head-land ſhe paſſed by, this ſhould be the particular care of the Navigator, and muſt be a pleaſure to him to ſee, that his courſe ſteered, carries him at a proper diſtance from one Head-land to another, and particularly in night time or heazy weather. I muſt here beg leave to obſerve, a fickleneſs in Navigators in general, which is, when a ſhip is ſteering a Channel courſe, and going as right as a ſhip can go. On any ſudden change of wind to the northward or ſouthward, they will immediately haul to the northward or Southward, apprehending the wind will come that way, and put themſelves out of the proper track of going up or down the Channel, and if night or hazy weather is coming on, they get themſelves bewildered, and either get too near the ſhore or too far off the ſhore, and ſome time get on the French coaſt, inſtead of the Engliſh, and run themſelves into danger.

On change of wind, not to alter the Channel courſe.

I therefore would adviſe every ſeaman and navigator, to ſteer the Channel courſe as long as his ſhip will lye her courſe, and not to run under a weather ſhore, thinking the wind will be off Land, for that which is the weather ſhore one hour, may happen to be a lee ſhore the next hour, therefore keep the Channel courſe as long as you can, and when by change of wind you cannot keep that courſe, you muſt do the beſt you can, according to your judgment and experience. The many times I have ſailed up and down the Channel, I have made it my rule to ſteer the Channel courſe as long as the wind would let me, and many times have ſteered but one courſe from the Lizard to Beachy Head, and ſometimes have not ſeen the land in that diſtance. If a ſhip has a fair wind, it ſhews a fickleneſs or want of judgment, to ſteer many courſes, which only ſerve to miſlead or perplex.

To continue the Channel courſe as long as you can.

A reaſon given.

I ſhall

I ſhall now take the ſhip up where I left her, ſhe being off the Lizard in 48 or 50 fathoms water, diſtance from it four leagues. It flows off the Lizard in the offing at full and change 7 hours. From the Lizard, direct your courſe up the Channel, the courſe from the Lizard to the Start is EbN 22 leagues, between the Lizard and the Start you will have ſoundings in the fair way from 48, 45, to 42 fathoms; keep without 40 fathoms, and you need fear no danger from the Eddy-Stone. I have had 39 fathoms water in paſſing by the Eddy-Stone, within 3 miles of it, when it bore NbW. N. and NbE. the ſame diſtance and depth of water. Between the Eddy-Stone and the Start you will have ſoundings in the fair way from 40 to 42 fathoms, the Start bearing from NbW. to NbE. diſtance 3 or 4 leagues, you will have from 38 to 40 fathoms water.

From the Lizard to the Start.

Off the Eddy-ſtone.

Off the Start-point.

The ſhip being off the Start in 38 or 40 fathoms water, diſtance 3 or 4 leagues off ſhore, direct your courſe up the Channel, the courſe from the Start to Dunnoſe, on the Iſle of Wight is EbN. 34 leagues; it flows at the Start in the offing 8½ hours; you will have ſoundings in the fair way from 40 to 38 fathoms, a little to the eaſtward of the Start, to 36, 34 and 32 fathoms, Portland bearing north 4 leagues, diſtance to the eaſtward of the Start 16 leagues. From Portland to Peverel Point and the Needles, you will have from 28 to 30 fathoms, in the fair way, from 4 to 5 leagues off ſhore, keep without 28 fathoms, and you need not fear the in-draught of the Channel of the Needles; you may paſs by the Iſle of Whight, in 25 or 30 fathom water, diſtance from Dunnoſe from 3 to 5 leagues, it bearing from NbW. to NbE. the ſame diſtance and depth of water.

From the Start-to the Iſle of Wight.

Off Portland.

Off Dunnoſe at the Iſle of Wight.

The ſhip being off the Iſle of Wight in 25 or 30 fathom water, Dunnoſe bearing north from 3 to 5 leagues, direct your courſe up the Channel. The courſe from the Iſle of Wight to Beachy Head is EbN. 22 leagues; it flows at the Iſle of Wight at full and change 11½ hours in the offing. Between the Iſle of Wight and Beachy Head, you will have ſoundings in the fair way from 30, 25, to 22 fathoms, keep without 20 fathom, and you need fear no danger from the Owers, but come no nearer them than 20 or 18 fathoms, night or day. Off Beachy Head, between

From the Iſle of Wight to Beachy Head.

Owers.

that and Fairleigh, you have 21 and 22 fathoms water, between 3 and 4 leagues off ſhore, and 30 to 35 fathom water from 6 or 7 leagues off ſhore.

Off Beachy Head.

The ſhip being off Beachy Head in 20, 21 or 22 fathom water, it bearing north, diſtance about 3 or 4 leagues, I muſt here give a caution to the navigator not to go into leſs than 20 fathom water, for EbS½S. from Beachy Head, diſtance 7 or 8 miles, lyes the Royal Sovereign Shoal, ſo called from the Royal Sovereign, a firſt rate, being a-ground upon it for ſeveral hours, as ſhe was coming from Portſmouth to the Downs, in 1758. This ſhoal has but 17 feet water on it, and EbS. about 2 leagues from Beachy Head, lies the Horſe of Willingdon, a dangerous ſand, having only 16 feet on it at low water, and there is 16 to 18 fathom water a little to the ſouthward of it.

The Royal Sovereign Shoal. Its bearings EbS½S from Beachy Head, 7 or 8 miles. Pemſey Church NNW½W. 8 or 9 miles, and Fairleigh NEbN 11 or 12 miles.

The Horſe of Willingdon.

From Beachy Head to Dungeneſs.

The ſhip being off Beachy Head in 20, 21 or 22 fathoms water, diſtance off ſhore about 3 or 4 leagues, direct your courſe up the Channel. The courſe from Beachy Head to Dungeneſs is EbN½N. diſtance 9 leagues; it flows at Beachy Head at full and change 11 hours in the Offing; between Beachy Head and Dungeneſs, you will have ſoundings in the fair way from 20 to 21 fathoms, off Beachy Head; (into leſs a ſhip ſhould not go,) which will carry her clear of the Royal Sovereign Shoal, and the Horſe of Willingdon, to the ſouthward of them. When Beachy Head bears NW. you may go into 18, 17, or 16 fathoms, but not into leſs than 16 fathoms; as you near Dungeneſs you will have leſs water, you may round Dungeneſs in 13 or 14 fathoms, diſtance from it about 1½ mile or 2 miles. Dungeneſs is bold too, you have 10 fathoms cloſe to the ſhore; having got as far as Dungeneſs, you are to conſider that you are in narrow ſeas. The SW. part of the Ripraps Sand, bears EbS. 10 or 11 miles from Dungeneſs, and the NE. part bears from the South Foreland SE. 10 miles, and WNW. from Calais Cliffs; come no nearer them than 18 fathoms, for there are 20 fathoms cloſe to them.

The depth of water a ſhip ſhould keep in, to carry her clear of the Royal Sovereign Shoal, and Horſe of Willingdon.

Off Dungeneſs.

Ripraps Sand.

From Dungeneſs to the South Foreland.

A ſhip being a-breaſt of Dungeneſs in 13 or 14 fathoms water, about 1½ or 2 miles diſtant from it, direct your courſe up the Channel for

for the South Foreland; from Dungeneſs to the South Foreland, the courſe is NE¼E. diſtance 6 leagues, it flows at Dungeneſs at full and change 2½ hours in the offing. (NOTE, here the tides meet) Between Dungeneſs and the South Foreland, you will have ſoundings in the fair way, from 14 fathoms off the Neſs, to 14, 15 or 16 fathoms; this depth of water will carry you clear of the Ledge of Rocks which lie off Folkſtone; come not nearer them than 14 or 15 fathoms, which will carry you within the Gunman Sand, it is not dangerous, having 7 fathom water on it; as you come near Dover, you may go into 11 or 12 fathoms, between Dover and the Foreland, and may round the South Foreland in 10 or 11 fathom water, and when you have got round the Foreland to the northward of it, and are running for the Downs, haul up N. or ſteer NbE. you may keep in 8 or 9 fathom water, until you bring Upper Deal Mill on with Deal Caſtle, where you may anchor in 8 or 9 fathom water in the Downs. It flows at full and change 2¼ hours, the flood runs 6½ hours to the northward, and the ebb 5¼ hours to the ſouthward.

Ledge of rocks off Folkſtone.

The Gunman Sand.

Off Dover.

Off the South Foreland.

Downs.

Tides.

A Particular Remark on a Ship's being off Beachy Head in the latter part of the Day, in bad Weather, and Night coming on; in that caſe, how the Navigator ſhould act, or the Method he ſhould purſue, &c.

I will acquaint him what I have frequently done, when I have been ſo circumſtanced, and in ſuch a ſituation.

I will ſuppoſe my ſhip running up the Channel, and bound to the Downs, and I am off or a-breaſt of Beachy Head, in the latter part of the day, and night is coming on, and I have a fair wind at WNW. W. or SW. and heazy weather, and it blows a gale of wind, I have not day-light to run me ſo far as Dungeneſs, and therefore cannot pretend to run for the Downs in the night time, I conſider, if I get a-breaſt of Dungeneſs, I am in narrow ſeas, I have not ſea-room to bring my ſhip too, to drive, and I cannot anchor, I am to conſider what is beſt to be done; to ſpend a long night in ſtormy weather, reaſon and experience tells me it would be imprudent to run, I had better lay too off Beachy

A ſhip being off Beachy Head, and bound to the Downs, in the latter part of the day, it being ſtormy weather.

Directions how ſhe may act under thoſe circumſtances.

Head, or ſtand off and on, where I have ſea-room until day-light, in the morning, when I can ſee about me. I will do ſo, and in my ſhip's driving or ſtanding off and on, under an eaſy ſail, I will not ſtand to the northward, or nearer to Beachy Head than 21 or 20 fathoms, nor will I drive or ſtand to the ſouthward towards the French Coaſt, nearer than 34 or 36 fathoms, and continue ſo to do during the night, and at day-light in the morning, I will bear away for the Downs.

I muſt obſerve, that no reaſonable man would run for the Downs in ſtormy weather or night time, if it could poſſibly be avoided.

Some Remarks and Obſervations on bringing a Ship to an Anchor in various ſituations, and in all kinds of Weather, with Directions how to ſhoot a ſhip clear of her Anchor in a Tide's way, when at ſingle Anchor, &c. &c. with Directions how a ſhip ſhould be moored, to lie with an open hawſe to the ſtrongeſt winds that blow, which occaſion the greateſt Sea, with many uſeful Remarks and Directions for bringing a Ship to an Anchor, although there are various ſituations, different ſorts of Harbours, Roads, and Coaſts, ſtrength of Winds, Seas, Tides, &c. which render it impoſſible to fix rules to bring a ſhip properly to anchor, &c. But ſhall mention a few inſtances wherein it may be done with ſome degree of propriety.

To come to an Anchor when going with a ſtrong Wind, and Tide the ſame way.

I will ſuppoſe a ſhip under ſail, and preparing to come to an anchor, with a ſtrong wind and tide the ſame way. It is to be obſerved, that where there is room, it is certainly neceſſary to furl all the ſquare ſails, as the ſhip is running before the wind and tide; the fore-ſtay ſail will be ſufficient only for the ſhip to run with, and when you have got the length you mean to go, to take room to bring her too, and to bring the ſhip's head that way that the anchor you mean to let go may be on the weather ſide; to put the helm hard over to ſtarboard or port, down fore-ſtay ſail, and haul out the mizen, to bring the ſhip's head up as much as poſſible againſt the wind and tide, and let go the anchor, which will contribute greatly to bring the ſhip up with ſafety and eaſe; when compared with that

bad

bad practice of letting go the anchor as the ſhip runs right before the wind and tide, without handing the ſquare ſails, which adds all that extraordinary force of the ſhip's way through the water, to the ſtrength of the wind and tide, which encreaſes the ſtrain, and rubs the cable to a dangerous degree, and ſometimes is the cauſe of parting it, by which I have ſeen great damage done, as breaking of the cable, falling aboard other ſhips &c. which might have been avoided by bringing the ſhip too, and letting go the anchor, as above mentioned.

Bringing a ſhip to an anchor, the wind and tide going the ſame way.

The damage done on thoſe occaſions, proceeds from want of conſideration, for it has been obſerved before, a ſhip ſailing right before the wind, and a ſtrong tide, does not feel the real ſtrength of the wind, therefore the ſeaman apprehending no danger, lets go the anchor as the ſhip runs, which, if it does not make ſomething give way, muſt greatly ſtrain every thing that is immediately concerned in bringing the ſhip up; this is a proceeding that ſhould carefully be avoided.

Damages done on bringing a ſhip up on that occaſion.

The above paragraph is alluding to the bringing a ſhip up in the Downs in ſtormy weather, as mentioned in page 84, in ſtreſs of weather; ſhips running into the Downs and other roads, have frequently ſtruck their yards and topmaſts, before they let go their anchor.

To bring a Ship to an Anchor when the Wind is blowing right acroſs the Tide.

A ſhip under ſail, in thoſe circumſtances, and preparing to come to an anchor, let it be obſerved, that where it can be done, the ſhip ſhould always be put upon that tack, that ſhe ſtems againſt the tide when the anchor is to be let go, and if it is deſigned to continue at ſingle anchor in order to keep it clear; in this caſe I would recommend it, to ſheer, and keep the ſhip to windward of her anchor, by putting the helm partly a-lee, and keep the mizen top-ſail a-back. See page 107, for keeping a ſhip clear of her anchor.

Bringing a ſhip to an anchor, wind blowing acroſs the tide.

To come to an Anchor at ſlack Tide, or in moderate Weather, where there is neither Tide nor Current.

A ſhip being under ſail, and is about to be brought to an anchor, when there is neither tide nor current, and it is moderate weather; it is expected in

Bringing a ſhip to anchor with a ſlack tide.

in this caſe, that the ſails are taken in, in a proper manner, as the ſtrength of the wind, and ſituation of the place may require; to bring the ſhip up with eaſe in moderate weather, and where there is room, it is certainly beſt to bring the ſhip too, by clewing up the top-ſails, and throwing her head up to the wind, by putting the helm a-lee, with the mizen top-ſail hoiſted, and ſuppoſed to be a-back, and the mizen hauled out; When the ſhip has loſt her head-way, and begins to go aſtern, then let go the anchor to the ground, but veer out no more cable, but as the ſhip takes it, by the ſhip's driving to the leeward or from the anchor, and not to bring the ſhip up, till it is thought that ſhe has ſufficient ſcope of cable to ride her, and to make the anchor hold in the ground, or as occaſion may require.

To come to an Anchor when the Wind is right againſt the Tide.

Bringing a ſhip to anchor when the wind is againſt the tide.

I will ſuppoſe a ſhip under ſail, and about to come to an anchor, it is ſuppoſed you will ſhorten ſail and hand the ſails in a proper manner, before you let go the anchor. Your ſhip is ſuppoſed to be in the place where you intend to anchor, and you let go your anchor; in this caſe it ſhould be a rule to ſhut the ſhip a-head of her anchor; if the tide is ſtrong, it will ſheer her to the windward of it, the foreſtay-ſail and mizen top-ſail full, will ſhut her a-head of it, and keep her upon a ſheer, with the helm put half-way, or nealy a-lee, and to keep her on that ſheer till the tide eaſes, taking care to ſhoot her tight a-head of her anchor, until ſhe ſwing down to the other tide, and comes head to wind, when the foreſtay-ſail may be hauled down, and the mizen top-ſail laid a-back, endeavouring always to keep the ſhip in, ſwinging with the tide, on one ſide of the anchor, or the ſame ſide of the anchor ſhe went laſt tide, to keep clear of it, for the reaſons that will be given in its place, for keeping a clear anchor.

To come to an Anchor when deſigned to moor with the beſt and ſmall Bower-Anchor.

Bringing a ſhip to an anchor when intending to moor with the bower anchors.

In places expoſed to rough winds and ſeas, from one quarter more than another, and if the ſhip is to lie for ſome time expoſed to all

all the various winds that may blow, it ſhould be made a rule to let go the firſt anchor, ſo that the ſhip may be moored with the ſecond anchor, to lie with an open hauſe towards the ſea, or the moſt open or worſt part of the road or river, where the greateſt ſea comes from, which gives the ſhip a violent motion, and is always deſtructive to cables, when riding hard with a croſs in the hawſe, for which reaſon, the croſs in the hawſe, or cable, ſhould always be towards the ſmooth water quarter, which ſhould be carefully obſerved.

As I have been ſpeaking of anchoring a ſhip in different ſituation in a tide's way, I muſt here beg leave to mention one circumſtance more with reſpect to a ſhip's anchoring, which I ſhall call Club-hauling, a circumſtance not well known, and of courſe leſs underſtood, but ſhall endeavour to give an explanation of it in this place.

On Club-hauling a Ship.

Club hauling a ſhip.

This is, to get a ſhip from one tack to the other, by letting go an anchor, when by an eddy tide, or by a rough ſea, or from any other cauſe, the ſhip refuſes to ſtay, or wear, in time to avoid danger; when this happens in ſhoal water, and it is found by the lead, that if the ſhip has not water over her anchor, ſhe ſhould have ſtern way given her, and not head way when the anchor is let go, and the weather anchor is likelier to go clear of the ſhip than the lee one, therefore both bower anchors ſhould be ready on thoſe occaſions. I will ſuppoſe the anchor to be let go on purpoſe to prevent the ſhip's running a-ſhore, when ſhe refuſes ſtays. I ſuppoſe the ſhip is in a tide's way, and as ſoon as the anchor has hold in the ground, ſhe will ſwing either head to wind, or with her ſtern to the windward; in either caſe the ſails ſhould be ſo trimmed as to caſt the ſhip's head off ſhore, then the anchor may be taken up, and the ſhip got off from the ſhore, but if the anchor cannot be conveniently taken up without danger to the ſhip, the cable may be cut or ſlipped.

On Club-hauling a Ship in bad Weather upon a Lee-ſhore.

Club-hauling a ſhip in bad weather on a lee-ſhore.

A thing more particularly depends on Club-hauling, when a ſhip may happen to be engaged with a lee-ſhore, in rough ſeas and ſtrong winds,

winds, and there are but two things preſented to you, which is, the ſhip muſt be put about, or go a-ſhore, there is not room to wear, or box-haul her, and it is not to be expected ſhe will ſtay; in that caſe there is only this way of acting, when all is at ſtake. I will ſuppoſe a ſhip under ſail in a freſh gale and rough ſeas, and is ſailing coaſtways, and ſhe is upon the larbord tack, cloſe-hauled, and ſhe is engaged with a lee-ſhore, I will ſuppoſe all hands upon deck, and every thing prepared for putting the ſhip about, though we know ſhe will not ſtay. In that caſe, I would place hands by the lee-bower anchor, and men to the cable; when all is ready, put the helm a lee, let go the fore-ſheet, &c. as is uſual in putting the ſhip about, and the moment the ſhip ceaſes coming too, let go the lee-anchor, and give the ſhip as much cable as will be ſufficient for bringing her up; and when ſhe comes nearly head to wind, haul main-ſail as uſual in putting ſhip about, get aboard the main-tack, &c. the head ſails being a-back with the yards, ſharp braced up with the ſtarboard braces; as ſoon as the ſhip brings the wind to be about a point or more on the lee-bow, being the ſtarboard bow, then ſhift the helm which before was hard a-lee, or hard a-ſtarboard, and put it hard a-port, cut the cable, and when the ſhip is properly paid off, haul off all, trim your ſails to the beſt advantage, and uſe your utmoſt endeavours to get off the lee-ſhore.

To let go all the Anchors to the beſt Advantage, when that is the only Chance left to keep a Ship off a Lee-ſhore.

I will ſuppoſe a ſhip under ſail in ſtormy weather, and ſailing coaſtways, and her ſituation is ſuch, that ſhe cannot clear the land, and being on a lee-ſhore, and no poſſibility of diſengaging herſelf therefrom; I ſhall endeavour to point out what is beſt to be done in this diſagreeable ſituation.

A ſhip on a lee ſhore in ſtormy weather, and is obliged to anchor.

This deſperate occaſion, when it happens, is the ſeaman's laſt ſhift, when a ſhip is ſo entangled with a lee-ſhore, with the wind and ſeas ſo high, and right upon the ſhore, that it is found impoſſible for the ſhip to keep off the ſhore, with all the ſail ſhe can carry, ſo that her ſafety muſt depend entirely on the management of the ground-tackle, that is to ſay, the anchors and cables.

In

In ſuch a dangerous ſituation, where if one anchor or cable fail, there is not room to bring the ſhip up by another, nor can it be expected that one anchor and cable could bring the ſhip up in ſuch ſtormy weather, when it is doubtful if all the anchors and cables will be ſufficient to bring her up, and as it always has been counted a great diſgrace to let a ſhip go a-ſhore with any anchors and cables at her bow, that might have been uſed to help to ride her; this has ever been reckoned a reproachful circumſtance to a ſeaman. Notwithſtanding this precaution, I have known ſhips drove a-ſhore with anchors at their bows, and good cables, that would perhaps have prevented their going a-ſhore, if proper meaſures had been uſed, to the ſhame of the Commanders and Officers of ſuch ſhips; therefore the utmoſt endeavour ſhould be uſed to let go all the anchors a little diſtance from each other, and as much as poſſible in a line along the ſhore, that one anchor may not hurt another cable, and that the cables lead clear of each other, and made to bear a ſtrain in proportion to their ſtrength, to help to ride out the ſtorm.

Directions how to proceed in a ſhip on a lee-ſhore in ſtormy weather.

To put this difficult performance in practice, I would recommend to get all the ſquare ſails handed with the greateſt diſpatch poſſible, but to keep the fore and fore-top-maſt, main and mizen ſtay-ſails ſet, and all the yards braced full or ſharp up, the ſhip to be ſheered, or the helm to be put a-weather, to keep head-way on the ſhip, ſhooting her along the ſhore as much as poſſible, till all her anchors are let go, and at the ſame time contriving to begin with the weathermoſt anchor, or that which has the cable in the weathermoſt hawſe-hole, and ſo on with the next weathermoſt anchor, paying out the cables as faſt as poſſible, that the ſhip may keep ſhooting a-head till the laſt anchor is let go, then haul down the ſtay-ſails, and bring the ſhip up, taking care to give the ſhip as much ſcope of cable, as the nature of things will admit of, and that all the cables bear equal ſtrain in proportion, and to make the ſhip as ſnug as poſſible, that the winds may have no more hold of her maſts and rigging, than needs muſt.

The ſeaman's laſt expedient in a ſtorm.

But if the ſtorm is violent, and keeps increaſing, and the ſhip is thought to ride ſo great a ſtrain upon her cables, that there is reaſon to

fear their parting, or that the ſhip's hull ſtrains ſo much, that it is feared ſhe will founder; in that caſe the maſts muſt be cut away; the laſt thing that can be done to ſave mens lives and the ſhip.

Some Remarks and Obſervations on a Ship's riding at a ſingle Anchor in a Road-Stead, or otherways.

This being a thing that much concerns every ſeaman and navigator, that has any thing to do with the care or management of a ſhip, and I am ſorry to ſay, if I was to judge from what I have ſeen, is a thing not rightly underſtood, and conſequently, not well known, I therefore ſhall be more particular in my deſcription, or explanation of this buſineſs, as nothing is of greater conſequence than to underſtand this matter rightly, and what I have to ſay upon this ſubject, I hope will be of uſe to ſeamen in general, but particularly to young ſeamen and navigators, who are beginning a ſea life, and wiſh to ſet out right.

Remarks on a ſhip's being at ſingle anchor.

It ſhould be a fixed rule on this occaſion, at the tide's firſt ſetting to windward, to ſhoot the ſhip a-head of her anchor, to keep it clear, and not to back her a-ſtern of it, for that is found by experience to be impoſſible, not only for the reaſons before given, but for reaſons that will be hereafter mentioned. When the cable's lying on the ground, and the ſhip ſwinging with the tide, will bring the wind ſo much abaft the beam, that it will be impoſſible to back the ſhip aſtern of her anchor; yet I have ſeen this attempted by ſeamen in capital Merchants ſhip's; and even in the King's ſervice, I have ſeen ſome expoſe their ignorance in this important point of duty, to my great ſurprize.

A fixed rule to be obſerved by a ſhip at ſingle anchot.

It ſhould be another fixed rule, always to endeavour to ſhoot or ſheer a ſhip on the ſame ſide of the anchor each tide, to avoid the riſque of the anchor not turning in the ground as the ſhip goes round it, as ſhe will do when ſhe is left to paſs at random, on one ſide of the anchor one tide, and on the other ſide of it next, by which bad practice the cable is liable to get foul of the upper fluke of the anchor, or to get under the ſtock of it.

A ſhip

A ſhip in a Road-Stead, in a tide's way, in moderate weather, at ſingle anchor, the tide of ebb with the wind blowing the ſame way as the tide runs, and is drawing towards low water. It is the ſeaman's buſineſs to pay due attention how to keep the ſhip clear of her anchor. When the flood tide begins to make, the firſt thing to be done is, to ſhorten in the cable to a proper ſcope, ſufficient to ride the ſhip; this is to be done by the time it is low water, before the flood tide makes to the windward; his next conſideration is, how to tend the ſhip clear of her anchor, ſo that ſhe may not foul it, that is to ſay, that the cable may not get foul of the flukes or arms of the anchor, and then to conſider, whether the ſhip upon the weather tide, will lie beſt a-head or a-ſtern of her anchor, when ſhe is put upon a-ſheer on the weather tide, and whether the wind will be afore or abaft the beam.

To keep a ſhip clear of her anchor in a windward tide.

To tend the ſhip clear of her anchor at low water, a-head of it.

If the wind ſhould be abaft the beam when the ſhip is ſwung to the flood, as ſoon as the tide begins to make to windward, it will be beſt to ſhoot the ſhip a-head of her anchor, by hoiſting the fore ſtay-ſail, and to fill the mizen top-ſail. I will ſuppoſe the wind on the ſtarboard ſide; in that caſe, the helm ſhould be put to port, which will lay the ſhip upon a proper ſheer, to be a-head, and to windward of her anchor, where ſhe will lie all the tide, the fore ſtay-ſail to be kept hoiſted, and the mizen top-ſail to be kept full, but it may be lowered down.

To lay a ſhip upon a ſheer to be a-head and to windward of her anchor on a weather tide.

At high water time the ſhip muſt be carefully attended again, to keep her clear of her anchor, as the flood tide eaſes or ceaſes to run; the ſhip muſt be forced tight a-head of her anchor, the fore ſtay-ſail is up, the mizen top-ſail to be hoiſted, and kept full, and if it be neceſſary, to hoiſt the jib, in order to effect it; by this means the ſhip will keep a-head of her anchor, and as the flood tide ceaſes to run, and the ſhip is a-head of her anchor, ſhe will gradually drop to leeward of it, and when the cable is brought to be afore the beam, the ſhip will ſoon come a-head to the wind; you may then haul down the jibb and fore ſtay-ſail, and back the mizen top-ſail, and put the helm in mid-

To tend the ſhip clear of her anchor at high water a-head of it.

ſhips, and the ſhip will be clear of her anchor, and you may veer away what ſcope of cable may be thought proper, to ride the ſhip upon the ebb or lee tide.

A reaſon why the cable ſhould be ſhortened, in order to tend the ſhip round her anchor.

The intention of ſhortening in the cable when a ſhip is at ſingle anchor is, that when there is but a ſmall ſcope of cable out, and the ſhip keeps the cable tight from the anchor, it turns in the ground as the ſhip moves or goes round the anchor, but it ſometimes happens, that if the ſhip does not tend round her anchor with a tight cable, it gets round the ſtock or fluke of the anchor, which is injurious to both the cable and ſtock of the anchor, and of courſe dangerous to the ſhip, ſhould it come to blow a gale of wind.

A ſhip at ſingle anchor.

I will ſuppoſe the ſhip at ſingle anchor, and it is near low water, and they have ſhortened in the cable to a proper ſcope ſufficient to ride the ſhip; this to be done by the time it is low water, before the flood tide makes to windward, as before-mentioned. The ſeamen is next to conſider whether the ſhip upon the windward tide will lie beſt a-head or a-ſtern of her anchor, when ſhe is put upon a ſheer on the weather tide, and whether the wind be afore or abaft the beam.

To tend the ſhip a-ſtern of her anchor at low water.

If the wind ſhould be afore the beam when the ſhip is ſwung to the flood, as ſoon as the tide begins to make to windward, it will be beſt to keep the ſhip a-ſtern of her anchor, by backing the mizen top-ſail, to hoiſt it, and make a bagpipe of the mizen, and to brace all the yards a-back, to keep the ſhip a-ſtern of her anchor. I will ſuppoſe the wind on the ſtarboard ſide; in that caſe the helm muſt be put a-port, which will lay the ſhip upon a proper ſheer, to be a-ſtern and to the windward of her anchor, where ſhe may lie all the tide, the mizen top-ſail to be kept a-back, but if it blows freſh it may be lowered down.

To tend the ſhip a-ſtern of her anchor at high water.

At high water time the ſhip muſt be carefully attended again, to keep clear of her anchor, as the flood tide eaſes or ceaſes to run, the ſhip muſt be forced tight a-ſtern of her anchor, the mizen top-ſail to be hoiſted and a-back with the bag-pipe of the mizen, &c. by this means the ſhip is kept a-ſtern of her anchor, and as the flood tide ceaſes to run, and the ſhip a-ſtern of her anchor, ſhe will gradually drop to

leeward

leeward of it, will ſoon come head to wind, and will be clear of her anchor, and you may veer away what ſcope of cable may be thought proper to ride the ſhip upon the ebb, or lee tide, according to the wind and weather, and the helm is then to be put in midſhips.

At ſingle anchor and the ſhip breaks her ſheer, how to act in that caſe.

Again, I will ſuppoſe a ſhip at ſingle anchor, and ſhe is laid upon a proper ſheer, to keep clear of her anchor, but it comes on to be ſqually weather, and the winds are variable, and the ſhip breaks her ſheer by the change of wind, and if good care is not taken ſhe will foul her anchor. What is beſt to be done when this happens.

How to act when a ſhip breaks her ſheer.

In that caſe, when a ſhip breaks her ſheer, I will hoiſt the fore ſtay-ſail or jib, and run her tight to leeward of her anchor, and bring her too on the other ſide of it. The wind, which was before on the ſtarboard ſide, will be now on the larboard ſide, and it is a windward tide, and I will either ſhoot the ſhip a-head of her anchor, or endeavour to keep her a-ſtern of it; and lay her upon a proper ſheer, according as the wind may be, or as the wind and weather will permit me to do. But if I was apprehenſive that my ſhip by breaking her ſheer, had fouled her anchor, and as a foul anchor is a very dangerous thing, in that caſe I would ſight my anchor while there was a windward tide; that is, I would heave up my anchor, to ſee if it was clear, and if it was, I would let it go again, but if it was foul, and I had not time to clear it, I would let go the other bower anchor, &c. and would then clear my foul anchor, ſtow it, and have it clear for letting go.

How to act if a ſhip fouls her anchor in a tide's way.

A ſhip at ſingle anchor in a tide's way in a ſtorm.

If a ſhip is taken in a ſtorm at ſingle anchor in a tide's way, how to act in this caſe, is what every ſeaman would wiſh to know. Then I will tell them. I have been in this ſituation, both in Merchant Ships and Men of War. It being a ſtorm, and your ſhip has a whole cable out, and the windward tide begins to make, the wind blowing a ſtorm, renders it impoſſible to ſhorten in the cable, the ſeaman is then to conſider, what can be done, or is beſt to be done in this ſituation. Should the ſhip come near her anchor, ſo as to foul it, with ſuch a ſcope of cable out, it muſt be very dangerous. The way to prevent this happening, is the thing he wiſhes to know, and

I will

I will tell him how I have acted under ſuch circumſtances, many times in my life.

Conſiderations on the ſet of the tide and the manner of the wind's blowing.

I will ſuppoſe my ſhip at ſingle anchor in a tide's way, and ſhe has a whole cable out, and it cannot be ſhortened in, it blowing a ſtorm, and the windward tide begins to make. The firſt thing to be conſidered, is the ſet of the tide, and the ſecond conſideration is, how the wind blows with reſpect to the ſet of the tide, that is to ſay, if the windward tide ſets directly in the wind's eye, or upon the point the wind blows from; ſuppoſe the wind NW. and the windward tide runs NW. this is what I call the tide running in the wind's eye; the ſecond conſideration is, whether the wind blows ſlanting, or a little acroſs the tide, two or three points or more, that is to ſay, the tide runs NW. and the wind blows SSW. SWbS. or SW. Suppoſing the wind to blow ſo; in that caſe the ſhip will lie beſt aſtern of her anchor, or to the northward of it; ſhe has a whole cable out, which cannot be ſhortened in, and the windward tide begins to make; thus ſituated, I would brace all the yards a-back, and make a bagpipe of the mizen, and put the helm to port, the wind ſuppoſed to be on the ſtarboard ſide; by doing this, the ſhip will be to the northward, or a-ſtern of her anchor all the tide, and at high water ſhe will ſwing from her anchor, and bring the cable right a-head.

To keep a ſhip a-ſtern of her anchor in ſtormy weather.

Again, the ſhip is at ſingle anchor in a tide's way, in a ſtorm, ſhe has a whole cable out, which cannot be ſhortened in, as before mentioned, and the windward tide begins to make, and runs NW. The ſeaman's conſideration is, how the wind blows, whether in a direction with the ſet of the tide, or it blows ſlanting a little acroſs the tide, 2, 3, or 4 points; that is to ſay, the tide runs NW. and the wind blows NNW. N. or NNE. Suppoſing the wind to blow ſo; in this ſituation, the ſhip will lie beſt a-head of her anchor, or to the ſouthweſt of it; in that caſe I would brace all my yards, up to the wind, or what is called fill the yards, the wind being on the ſtarboard ſide, by hauling in the larboard braces, hoiſt

To keep a ſhip a-head of her anchor in ſtormy weather.

hoiſt the foreſtay ſail, and ſhoot the ſhip a-head of her anchor, or to the ſouthward of it, putting the helm to port; by ſo doing the ſhip will lie to the ſouthward, or a-head of her anchor all the tide, and at high water ſhe will ſwing from her anchor, and bring the cable right a-head.

I muſt here beg leave to ſay, that I have ever found in ſtormy weather, that a ſhip at ſingle anchor in a tide's way, with a whole cable out, and upon a windward tide, will lie more ſteady, and leſs liable to break her ſheer, than when the cable is ſhortened in, which is a very fortunate circumſtanee, as it is a work of neceſſity to lie with a whole cable out, when it is impoſſible to ſhorten it in. This is an act of Providence, whoſe acts of kindneſs are innumerable to all mankind, but more particularly to ſeamen, for which they ſhould be grateful, in the higheſt degree, to that Being, whom their dependance is ſo much upon; much more ſo, than any other ſet of men under Heaven, and I am ſorry to ſay, how little Seamen think of the Bleſſings they enjoy from the Gracious Gifts of Providence.

Obſervations on a ſhip with her whole cable out on a windward tide in ſtormy weather.

Seamen ought to be thankful.

I muſt here beg leave to ſay ſomething more with reſpect to a ſhip's riding at ſingle anchor, which I hope my brother ſeamen will pay attention to, as I mean it to be a general rule to be obſerved, as their own ſenſe and reaſon will ſhew them the expediency of it. The matter I am about to mention, is as follows.

Advice to ſeamen.

When a ſhip is riding in the open ſea, which has often been the caſe in Pilot's water. As large ſhips in going down the Swin and bound to the Downs, are often obliged to anchor off the Long Sand Head; in this ſituation they frequently meet with ſtormy weather, and have been obliged to ride out a very hard gale of wind.

Anchoring in the open ſea.

As alſo ſhips that might have been ordered on ſervice on the Coaſt of Holland or Flanders, have been obliged to anchor on the ſaid Coaſts, and to ride out all gales of wind and ſtorms, as they happened.

This

Anchoring in the open ſea practiſed in former times.

This method of acting was alſo practiſed in the Engliſh Channel, in King William III. and Queen Ann's time; in whoſe *Glorious Reigns* great Honour was gained to this Nation, by the good conduct, and great abilities of the ſeamen of this Country; when our fleet, and even ſingle ſhips tided, and worked down the Channel, always anchoring when the tide and wind was againſt them, by which means they gained their paſſage expeditiouſly. This ſhews anchoring in the open ſea was much practiſed in thoſe days, and with ſucceſs.

From what I have ſaid, I mean to ſhew that anchoring in the open ſea is no new thing, and that ſeamen ſhould not be ſurprized at it, but ſhould make the idea famlliar to them, and hope they will pleaſe to obſerve what I am going to ſay with reſpect to a ſhip's anchoring in the open ſea, and which may be worth their while to attend to.

Reaſons given why a ſhip will ride longer by one anchor with a great ſcope of cable, than with two anchors and two cables in a ſtorm.

I muſt here beg leave to obſerve, that it is better to ride by one anchor, with a great ſcope of cable in the open ſea in ſtormy weather, where there is ſea room, than with two anchors and two cables, as I ſhall endeavour to ſhew. In this ſituation, to give the ſhip as great a ſcope of cable as the place will permit, or the neceſſity may require, before you offer to bring the ſhip up, becauſe the length and weight of the cable will contribute greatly to eaſe both the anchor and cable, as well as the ſhip when the ſea runs high, for it is well known in a ſtorm, when the ſea runs high, and eſpecially in deep water, that a ſhip will ride much eaſier and longer by two cables, or more, upon one end to a good anchor, than by two anchors with a ſingle cable to each, for, to ride by two anchors, they muſt lie far enough aſunder on each bow, to prevent one anchor from hurting the other cable, which it may not be in the ſeaman's power to do, when he lets go his ſecond anchor; but admit it could be done, the ſhip will not ride, nor will ſhe be ſo eaſy, as with one anchor, with two cables or more on one end; it muſt be obſerved, the ſhip ſeldom pulls hard

upon

upon both cables at the ſame time, but firſt pulls hard upon one cable; if but a ſhort ſcope, it plunges her deep into the ſea, then that ſtrain draws the ſhip towards that anchor, which ſlackens that cable, ſo that by the next ſea ſhe ſtrains hard upon the other cable, and ſo on; ſhe pulls firſt upon one then upon the other, which cauſes the ſhip to labour and be very uneaſy in the ſea, in compariſon to what ſhe would be, if riding by one good anchor, on a great ſcope of cable, which admits the ſhip to fall and riſe eaſy with the ſea, without hauling the whole length and weight of the cable off the ground, which makes the anchor hold longer without coming home, and greatly leſſens the ſtrain on the cable.

Remarks and Obſervations on a Ship's anchoring in the open Sea, or where it may be neceſſary for her to Anchor in ſuch a Situation, either off the Long Sand Head, on the Coaſt of Holland or Flanders, in the Engliſh Channel, or elſewhere, where there is Space and Room for anchoring, or where they can give the Ship a proper Scope of Cable, which is abſolutely neceſſary on ſuch Occaſion.

One anchor only neceſſary when a ſhip anchors in the open ſea.

A ſhip being in any of the ſituations above-mentioned, and has ſea room enough, and may be obliged to anchor, let it be obſerved, when the ſhip anchors, that the ſeaman will have no idea of more than one anchor being neceſſary in moderate weather, he will judge what ſcope of cable may be neceſſary to give the ſhip, according to the ſtrength of the tide, wind, and weather, &c. but if it comes to be bad weather, with the wind and ſea increaſing, it will then be neceſſary to give the ſhip ſuch ſcope of cable, as may be thought ſufficient to ride her in the ſituation ſhe is in. Suppoſe you have freſh gales, give the ſhip a whole cable's ſcope, if ſtrong gales, give the ſhip one and an half, or two cables ſcope. If it comes to blow hard gales, give the ſhip three cable's ſcope, and make the ſhip as ſnug as the nature of things will admit of. A ſhip will ride longer with one anchor and three cables on an end, than ſhe will with all her anchors down, and is much eaſier to the ſhip, and leſs ſtrain on the anchor and cables; but your ſafety in riding

What ſcope of cable to give the ſhip according as wind and weather may be.

in the laſt mentioned ſituation with one anchor, and three cables on an end, will greatly depend on the ground being clear of Rocks, or any thing that may injure your cables.

A caution if the ground be clear when riding with a great ſcope of cable out.

In the before-mentioned places, viz. off the Long Sand Head, on the Coaſt of Holland and Flanders, and in moſt places in the Engliſh Channel, the ground is clear, and fit for anchorage.

Place where a great ſcope of cable is neceſſary.

I will ſuppoſe a ſhip riding in the open Sea at ſingle Anchor, with one, two, or three cables upon an end, and it is ſtormy hazy weather, or night time, and you are near any known Sand or Danger, or if you are not, it requires a good look-out, and much care and attention, to ſee or know that your ſhip rides faſt, and that ſhe does not drive; if the ſhip rides faſt, it muſt give you great comfort: the method to know this is not well underſtood, nor is it to be relied on; a man is ſent into the Chains with a lead and line, to inform you if the ſhip drives or rides faſt, he lets the lead lie on the ground, and holds the line in his hand in a tide's way; the ſhip may happen to take a ſmall ſheer one way or the other, which takes out ſome of the line, upon which the injudicious leadſman alarms you, by crying out the ſhip drives, which at ſuch times is very alarming, though at the ſame time it is not ſo. This is a very poor method for finding out a thing of ſuch conſequence, as a ſhip's driving, or riding faſt, at ſuch times as thoſe, and at ſuch a critical juncture.

A ſhip riding at ſingle anchor in the open ſea, the uſual method to know if the ſhip rides faſt, or drives, in an improper method.

A better method propoſed.

I therefore beg leave to propoſe a method far more to be relied on, and with greater truth and certainty, and with more eaſe and conveniency to the leadſman, and far more ſatisfactory to the Commander and Officers of the ſhip.

THE METHOD.

The method to be put in practice which will anſwer the end propoſed.

Take a boat's grapnel, and a coil of 2 or $2\frac{1}{2}$ Inch rope, and make the end of the rope faſt to the ring of the grapnel, and let the grapnel be dropped from the ſprit-ſail yard, or from the bowſprit, and lowered down upon the ground. I ſuppoſe the coil of rope to be under the fore-caſtle, and the end of the ſaid rope, that is faſt to the grapnel, to be

out

out of the head door: and I ſuppoſe a careful man that can be relied on, to be placed under the forecaſtle, near the head door, and to hold the rope that is faſt to the grapnel in his hand, and ſtrictly to obſerve when any of the rope goes out; if the ſhip drives, or goes aſtern, the rope will go out as faſt as the ſhip drives; then the man who is placed by the rope, is to give the alarm to the Officers upon deck, who are to judge whether it is proper to let go another anchor, or ſet ſail on the ſhip, or what is beſt to be done, which I ſuppoſe ſhould have been determined upon before the ſhip drove, or the alarm is given by the man at the grapnel rope, that the order may be inſtantaneouſly given, and immediately obeyed, without any loſs of time, as in ſuch a critical and dangerous ſituation, I ſhould ſuppoſe it had already been determined how to proceed when ſuch circumſtances happened, either of the ſhip's driving, or the cables parting, and whichever way it had been determined on, that orders ſhould be immediately given for the preſervation and ſafety of the ſhip.

When the ſhip drives it will be diſcovered by the man who holds the rope which is faſt to the grapnel.

Rules for knowing if a Ship drives, when at ſingle Anchor, by the Grapnel, Rope, &c.

This method will hold good at any time at ſingle anchor, or if the ſhip is moored between her bowers in narrow ſeas, and may be ſurrounded with ſands, dangers, &c. When it may be neceſſary to let go another anchor, the moment the ſhip is perceived to drive, then the Grapnel and Rope is the beſt method to know if the ſhip drives, or the cable parts in the night time, or in foggy or hazy weather. When you cannot ſee any marks on the land to inform you of the ſhip's driving, this is a ſure guide, and was the method I always practiſed in ſuch a ſituation. But if you have ſea room to get the ſhip under ſail, it would be the highth of folly to let go another anchor, as it would anſwer no end, but to loſe the anchor and cable, for it could not be ſuppoſed it would bring the ſhip up. But if you ſhould not have ſea room, you muſt have recourſe to the remainder of your anchors and Cables, and diſpoſe of them to the beſt advantage for ſaving the ſhip and mens lives. See Page 105, for bringing a ſhip up in a ſtorm.

Some Remarks and Obſervations on a Ship's riding at Anchor in a Road-Stead, when moored between her Bowers.

Some men think this a ſtate of perfect ſafety, and therefore do not take care to make themſelves quite ſecure, but I muſt beg leave to tell them, that ſeamens care and trouble have no end, while they are on board a ſhip, or have any thing to do with the care of her, for every change of wind and weather brings new matter to give trouble, care, and anxiety, to thoſe that have the charge of a ſhip.

How to keep a clear hawſe.

A ſhip being in a Road-Stead, and moored between her bowers in a tide's way, care muſt be taken to keep a clear hawſe, as nothing is more dangerous than a foul hawſe, which you can neither veer nor heave. Was there another ſhip, or any thing elſe coming foul of you, and it comes on to blow, or be bad weather, when you have a foul hawſe, both your cables muſt inevitably be ſpoiled, and rubbed to pieces, which will greatly endanger the ſafety of the ſhip. When a ſhip is about to tend to the tide, at low or at high water, care muſt be taken to get the ſhip's ſtern that way that the hawſe will be open, by hoiſting the mizen top-ſail, and making a bagpipe of the mizen, by keeping them either full, or a-back, as may be moſt proper for getting the ſhip's ſtern the right way; or when you have brought the wind a little upon the bow, to hoiſt the jib foreſtay ſail, and haul the ſheets to windward, to keep the ſhip upon a right cant, until the tide makes, and then to take in the mizen topſail, and haul up the mizen; this is to be carefully attended to, both at high and low water, when the ſhip tends to the tide.

A ſhip with a foul hawſe.

But notwithſtanding all your endeavours, the ſhip will ſometimes foul her hawſe; when that is the caſe, the hawſe ſhould be immediately cleared as ſoon as the ſhip is fairly ſwung up or down to the tide, taking care to clear the hawſe with that cable the ſhip rides leaſt by. In general, the hawſe is cleared with the ſmall bower, therefore it ſhould be done on that tide when the ſhip rides by the beſt bower, and as ſoon as the hawſe is cleared, the ſmall bower to be ſpliced again as before, in readineſs for veering on that cable, ſhould any thing happen to make

How to clear the hawſe with ſafety.

it

it neceſſary. I muſt here obſerve, that it has been my cuſtom when clearing hawſe, to put an end of a good hawſer with a rolling hitch upon the cable that was to be paid out, and to bring it to the capſton, and heave it well tight, to prevent the cable's ſlipping through the laſhing, and running end for end, which I have known happen, and in blowing weather I have frequently made uſe of the end of the ſtream cable for that purpoſe, inſtead of an hawſer, to prevent accidents.

The ſhip riding in a ſtorm with an open hawſe.

I will ſuppoſe a ſhip moored in a Road-Stead, and it comes on to blow a ſtorm, and ſuppoſe the hawſe to be clear, and the ſhip is riding with an open hawſe, equally between both her cables, it blows a violent ſtorm, and there is a very great ſea, the ſhip not only rides a great ſtrain upon her anchors and cables, but is alſo much ſtrained by the cables bearing nearly upon the beam each way, which muſt ſtrain the ſhip's bows very much, and occaſion her making much water, by her being confined between her cables, which cauſes the ſhip to plunge deep into the ſea, and lays a greater ſtrain on the anchors, cables, and ſhip, and gives her an uneaſy motion, when by giving her a greater ſcope, the ſhip will ride more eaſy, and leſs ſtrain on the cables and anchors.

Advice how to act in ſtormy weather.

The ſhip being in this diſagreeable ſituation, the experienced ſeaman will think what is beſt to be done, to eaſe the ſhip from the great ſtrain ſhe now rides by her bows, and alſo how ſhe may ride leſs ſtrain on her anchors and cables, and it muſt be here obſerved, that the ſhip and mens lives are in danger. It is well known that many ſhip's have foundered at their anchors in ſtormy weather, it therefore ſhould be the ſeaman's ſtudy how to make the ſhip ride as eaſy, and as long as he can, when all is at ſtake.

The method how to make a ſhip ride more eaſy.

The ſhip being in the before-mentioned ſituation, I ſhall, as an old and experienced ſeaman, give my opinion what ſhould be done in ſuch a ſituation, and what I myſelf have done. I ſuppoſe the ſhip in a ſtorm, and moored between her bowers and a very great ſea, and ſhe is riding directly between her cables; in that caſe, I would veer away upon both cables, until I had got a cable and an half ſcope upon each anchor, and if I found, or thought that ſcope not ſufficient, I would

I would veer away till the ſhip had two cables on each anchor, when it will be found, that the ſhip will ride much eaſier, and much leſs ſtrain on her anchors and cables, and in all probability will ride out the ſtorm very well, provided ſhe is made as ſnug as ſhe ought to be, to ride out the ſtorm; of which I ſhall ſpeak more of hereafter, in a proper place.

The Ship to be made as ſnug as poſſible when at anchor in a ſtorm.

I will again, ſuppoſe the ſhip moored in a Road-Stead in a ſtorm, and a great ſea, and the ſhip has a croſs in her hawſe, that is to ſay, the ſmall bower cable, which is on the larboard ſide, goes acroſs the cutwater, and grows out on the ſtarboard beam, and the beſt bower, which is on the ſtarboard ſide, goes acroſs the cutwater, and grows out on the larboard beam. In this ſituation, the cables bear hard againſt the cutwater, and are very apt to ſtake the knee of the head, or damage it, and at the ſame time the ſervice of the cables muſt ſoon be chafed and rubbed to pieces, and the cables alſo ſoon rubbed and cut a-ſunder by the friction, if the ſhip lies long in this ſituation, and therefore the experienced ſeaman will again think what is beſt to be done. In this caſe, I will recommend the ſame method of acting as before, when the ſhip was riding between her cables with an open hawſe; and in the preſent caſe, I would veer away upon both cables, until I had got a cable and half ſcope on each anchor; and if I thought, or found that ſcope was not ſufficient, I would veer away until the ſhip had two cables on each anchor, when it will be found the ſhip will ride much eaſier, and much leſs ſtrain on her anchors and cables, taking care, that when the ſhip has ſuch a ſcope of cable as may be thought ſufficient for her, that proper ſervice is put on the cables, and that the hawſe is often freſhened, and the ſhip is made very ſnug, as before-mentioned in the laſt Paragraph.

A ſhip riding at an anchor in a ſtorm, with a croſs in her hawſe.

A method to relieve the ſhip and ſave the cables.

To put proper ſervice on the cables when the ſhip has a large ſcope of cable out.

Again, I will ſuppoſe a ſhip moored in a Road-Stead in a ſtorm, with a great ſea, and the ſhip rides moſtly by one anchor, I will ſuppoſe the beſt bower, which is in the ſtarboard ſide, and the cable grows two, three, or four points, before the beam, and the ſmall bower, which is on the larboard ſide, grows two, three, or four points abaft the beam, and the ſhip has an open hawſe; in this ſituation, the ſhip rides a moſt extraordianary

A ſhip when moored in a ſtorm, and ſhe rides moſt by one anchor.

extraordinary ſtrain on the beſt bower, and the ſmall bower growing three or four points abaft the beam, adds much to the ſtrain of the beſt bower. The experienced ſeaman is then to conſider what is beſt to be done for the ſafety of the ſhip, and to make her lie as eaſy at her anchors as poſſible. In this caſe, I ſhall again given him my opinion.

A method to relieve a ſhip in a ſtorm.

A ſhip being in the ſituation as before-mentioned, I would veer away on the beſt bower cable, until I brought the ſmall bower anchor and cable to bear three, four, or five points before the beam; the ſhip will by this time have nearly two cables on the beſt bower, and one cable on the ſmall bower, the anchors will have a great ſpread, and the ſhip will lie much eaſier than ſhe did, before you wore away on the beſt bower, and I would not veer away more cable on the ſmall bower, unleſs it was abſolutely neceſſary ſo to do, by the violence or increaſe of the ſtorm; you muſt then veer on both cables, if it is neceſſary to give the ſhip a greater ſcope. I will ſuppoſe the ſhip rides out the ſtorm very well, by doing as before-mentioned, and the ſtorm is over, the weather becomes more moderate, they are then to heave in the beſt bower cable, to the mooring ſervice, and the ſhip will be moored in the ſame manner ſhe was before the ſtorm came on, and all will be well.

How to act when the ſtorm is over.

A Notation

I muſt here beg leave to repreſent to ſeamen in general, that there cannot be a greater miſtake, than mooring a ſhip too tight, it is an unpardonable error, and attended with the worſt and moſt dangerous conſequences both to the ſhip, and to the cables, for every time the ſhip ſwings over her cables in a tide's way, ſhe will rub and ſtrain them exceedingly, which in a ſhort time will render them uſeleſs, and unſafe for the ſhip to ride by. This not being ſeen by the injudicious ſeaman, may render the ſafety of the ſhip very precarious and dangerous, therefore mooring the ſhip ſhould be judiciouſly conſidered, and carefully performed. I have known many miſrepreſentations made, and much delay of ſervice happen from this very cauſe of mooring a ſhip too tight.

tight, and there cannot be a reaſonable excuſe made for it. I have known many ſhips, when unmooring, in order to go to ſea, in heaving in their cables, have found them entirely ſpoilt and rubbed to pieces; and by way of gloſſing over their own miſtakes and errors, they have ſaid, there muſt be ſomething the matter with the ſhip's bottom or falſe keel, and there muſt be ſome of it come off: from thoſe miſrepreſentations the ſhip has been prevented from going to ſea, though ſhe was going on a preſſing ſervice, and has been ordered to be docked, and when docked, nothing was found amiſs with the ſhip's bottom or falſe keel, as was reported, which ſhews the error was in the ſhip's being moored too tight: many inſtances of this kind I have known to happen, and have been an eye witneſs to, and have known a ſhip ſpoil her new cables in a week, or ten days time, not a ſingle ſhip, but many; and it was plain from the nature of the rubs on the cables that it did not happen from any defects of the ſhip's bottom or falſe keel, for this reaſon, the rubs were very ſmooth, and in length ſeveral fathoms, and were rubbed, or worn all alike. Which ſhews there was no defect in the ſhip's bottom, for if the rubs on the cables had happened from any defect of the ſhip's bottom or falſe keel, the rubs would have been rough and jagged, as if cut with a dull axe, and would have been moſtly in one particular place, and the rub would not have been of any great length; this is the argument I uſed when I gave my opinion on a ſhip's cables I have ſeen ſpoiled, and that I was ſure there was nothing the matter with the ſhip's bottom; but all the evil originated from the ſhip being moored too tight, which in my opinion brings on a diſagreeable diſappointment of Service, and a great expence to Government; this, by proper care and a prudent conduct, may be prevented, and is what it behoves every good Seaman and Officer to attend to.

A ſhip moored in a Road-Stead in moderate weather, and a ſudden ſtorm comes on.

Again, I will ſuppoſe a ſhip moored in a Road-Stead, in moderate weather, and there comes on a ſudden gale of wind, and the ſhip lies or rides directly between her cables, and ſhe happens to have an elbow in the hawſe with the ſmall bower, which as the ſhip rides between both her cables, grow out on the larboard beam; the wind increaſing, and the

the ſea riſing very faſt, and the ſhip rides a great ſtrain on her cables, and there being an elbow in the hawſe, the ſervice of the cables muſt very ſoon be rubbed to pieces by the ſhip's motion, and the cables in danger of being rubbed or cut to pieces, there is not much time to deliberate what is beſt to be done, for your cables are in danger of being ſpoiled, and conſequently the ſhip will be in danger : in the preſent caſe, I ſhould not heſitate a moment, I would veer away the ſmall bower which made the elbow in the hawſe, as faſt as it could be wore away, that it might not injure the beſt bower, and let the ſhip ſwing to the beſt bower and cable, and let the ſmall bower be all ſlack, ſo that you may keep the bite of the ſaid cable triced up in the fore bowline to the bowſprit, and a rope from the ſtarboard cat head, to keep it clear of the beſt bower cable, that neither of the cables might be rubbed or chafed againſt each other, and I would bit the ſmall bower and ſecure it within board, that it may be ready to bring the ſhip up, in caſe any thing ſhould happen to the beſt bower. It muſt be here obſerved, there are two cables upon an end on the ſmall bower, in this caſe your ſhip ſhould be made ſnug, by lowering the lower yards, getting down the top gallant yards, ſtriking the top gallant maſts, and pointing the topſail yards to the wind, &c. &c.

The ſhip has an elbow in the hawſe, how to act in that caſe.

The ſhip to be made ſnug.

I muſt here beg leave to relate a circumſtance nearly ſimilar to that in the laſt paragraph. In July 1762, we arrived with our ſquadron at Madras Road from Trincomalay, I being in His Majeſty's Ship Elizabeth : we anchored in the Road in the morning, and it blew a freſh land wind all day, the Admiral made the ſignal to moor, the ſquadron moored accordingly with their ſmall bowers to the eaſtward, which is to the ſeaward, and the beſt bowers to the weſtward, ſo the ſhips were moored nearly eaſt and weſt, which was wrong; inſtead of their being moored nearly north and ſouth, which would have been right. It fell little wind in the evening, and the ſhips in general took an elbow in their hawſe, we had no ſea breeze till about 8 o'clock at night, when it came on, and blew pretty freſh, it kept increaſing until 10 at night, when it blowed very ſtrong gales at SEbS. and SSE. with a great ſea, we had an elbow in the hawſe with the

A caſe which happened to the author in the Eaſt Indies.

The ſhips being wro[illegible] moored was the cauſe of the injuries that happened.

The method how to eaſe the ſhip and ſave the cables.

ſmall bower, and the ſhip riding a great ſtrain by her cables, we wore away the ſmall bower to two cables on an end, and let the ſhip ſwing to the beſt bower, and the ſmall bower cable be all ſlack without board, triced the bite of the ſaid cable up in the ſtarboard fore bowline, and a ſlip rope from the ſtarboard cat head to keep the cables from chafing or rubbing each other; at the ſame time bitted the ſmall bower and ſecured it, ſo, that if any thing ſhould happen to the beſt bower, that the ſmall bower might bring the ſhip up, at the ſame time lowered down the lower yards, got down top gallant yards, ſtruck the top gallant maſts and braced the top-ſail yards to the wind, and in this manner lay well till morning; when the wind grew moderate, we cleared our hawſe by paying out the end of the ſmall bower which was clenched round the orlop beam, and hove in to the mooring ſervice on the ſmall bower, and the ſhip was moored as before, and we were briſk in ſwaying up our lower yards, and getting up our top gallant maſts and yards, as we had done this without ſignal, as well as veering our cable, and letting

The ſhip to be made ſnug.

From this precaution the Elizabeth received no damage.

ſhip ſwing to the beſt bower, by which we preſerved our cables and ſhip from any injury: we were the only ſhip that did ſo, and the ſecond ſhip in command in the ſquadron.

Remarks of what happened to the reſt of the Squadron on the above-mentioned Occaſion.

Damage ſuſtained by the reſt of the ſquadron at that time.

The Norfolk, being the Admiral's ſhip, parted her ſmall bower cable, let go her ſheet anchor, and parted that cable, and was much alarmed, and every ſhip in the ſquadron parted one cable, ſome their beſt, and ſome their ſmall bowers, and were alſo much alarmed during the night. After the gale was over the ſhips of the ſquadron ſwept for their anchors, and got moſt of them again, except the Norfolk, who never found her ſheet anchor; but what is remarkable, they did not get down their top gallant yard, nor endeavour to make the ſhip ſnug, in all the buſtle of the night. The Admiral and his Captain were aſhore. I juſt mention this, to ſhew what trouble, expence, and anxiety, may be ſaved by a little care, thought and foreſight; the ſeaman's thoughts

muſt

muſt ever be on the ſtretch, he muſt never be at a loſs for an expedient how to act upon an emergency.

Sheet anchor.

It may be ſuppoſed, that in this place I ſhould ſay ſomething about the ſheet anchor, which I have not mentioned in my account or detail of anchors or anchoring, and therefore it may be expected I ſhould ſay ſomething about the ſheet anchor and cable, and its intended uſe and meaning, which I ſhall explain.

Sheet anchor and cable to be the beſt in the ſhip.

The ſheet anchor and cable, are ſuppoſed to be the beſt anchor and cable in the ſhip, and it really ſhould be ſo, as it is ſuppoſed, when any or all the other anchors and cables give way, the ſheet anchor is the ſeaman's hope, his laſt refuge and ſafety from danger.

Sheet anchor, its uſe.

The ſheet anchor and cable, are never uſed but in caſes of extreme danger, when ſome of the other anchors and cables have given way, or the cable or cables have parted, or the ſhip drives in a hard ſtorm, or by ſome extraordinary accident happening to the other cables and anchors. I cannot pretend to ſay, when, or upon what occaſion the ſheet anchor ſhould be let go; in my fifty years ſervice at ſea, I have not ſeen the ſheet anchor let go more than ten times by ſtreſs of weather, but yet the ſheet anchor is always kept in readineſs for letting go, and when a ſhip is moored in a Road-ſtead, or elſewhere, in ſtormy weather, the ſheet cable is bitted with a long range, and people are ordered to ſtand by the ſheet anchor with axes, to cut it away when orders are given for ſo doing.

Sheet anchor ſeldom uſed but in extremity of weather.

When it may be neceſſary to let go the ſheet anchor.

This is a very neceſſary precaution, and particularly when the ſhip is at anchor in narrow waters, is near the ſhore, ſands, rocks, or any other kind of danger. The moment the ſhip is perceived to drive by the anchor or cables, ſhe rides, by coming home, or the cable parting, that inſtant the ſheet anchor ſhould be cut away, and a ſufficient ſcope veered out to bring the ſhip up and ride her by; but if one of your bower cables has given way or parted, that occaſions you to let go your ſheet anchor, you will then have but two anchors down to ride by, and great care ſhould be taken to keep the other bower cable clear of the ſheet anchor, but if the bower anchor the ſhip rides by, I will

How to act when the ſheet anchor is let go.

ſuppoſe the cable not parted, but the auchor is come home, which occaſions the ſhip to drive, and which made you let go your ſheet anchor, you will then have three anchors down, and all growing a-head; your chief care will be to keep the cables all tight alike, that the ſhip may ride an equal ſtrain upon each of them, and not to give too much ſcope upon the ſheet cable, to endanger the other cables getting foul of the ſheet anchor, and by no means to have a buoy and buoy rope to the ſheet anchor, for the buoy and buoy rope, if there is one, will ſurely get foul of the other cables, and overſet the ſheet anchor on the ground, upon any ſhift of wind or ſheer the ſhip may take.

Not to have a buoy and buoy rope to the ſheet anchor.

I will ſuppoſe you have rode out the ſtorm, and the firſt thing to be done when the weather moderates, is to take up your ſheet anchor, and new moor your ſhip, and put all things to rights, as before the ſtorm came on, &c. The ſheet anchor to be immediately taken up, for fear of the other cables getting foul of it, by which they may be rubbed and much injured, and the ſheet anchor to be got in its place, out of the way of ſtowing the bower anchor.

When to take up the ſheet anchor.

Some Remarks and Obſervations on the Method and Manner of making a Ship ſnug, and preparing her to ride out a Storm in a Road-Stead, when ſhe is at Anchor, and moored between her Bowers, &c. &c.

A conſideration on anchors.

The prudent and experienced ſeaman will pleaſe to conſider, that though his ſhip may happen to be a large, noble, and fine ſhip, well manned, and well found in every reſpect, and has as good anchors and cables as can be had, yet he will recollect, a ſhip is at no time free from accidents happening to her in windy and ſtormy weather, and his anchors, which are made of iron, may have defects in them, that the eye cannot perceive, and we have known ſeveral anchors to have broke, when there has been no great deal of wind; that is to ſay, it has not blown a ſtorm, I have known ſo a great number of anchors break in the courſe of my ſervice, that I think proper to mention it in this place; ſometimes the anchor has broke in the ſhank, ſometimes the arm has broke at the

Anchors liable to accidents.

the crown, and ſometimes the arm has broke off half-way between the crown of the anchor and the fluke, and ſometimes the fluke of the anchor has come entirely off, which renders the anchor uſeleſs, and ſometimes the ring of the anchor has broke. I have known an arm of an anchor break off in letting the anchor go from the ſhip's bow, the arm was ſeen to break off, before the anchor fell in the water.

Inſtances of anchors breaking.

Your cables, however good they may look to the eye, cannot be expected to be in all parts good alike, not even when they are new, but much leſs ſo when they have been any time in the ſhip, or may have been made a conſiderable time, which may be the principal cauſe of their defects.

Conſiderations on cables.

From what I have ſaid of anchors and cables, I hope it will convince every ſeaman, that great care ſhould be taken of them, and that there never ſhould be any additional ſtrain put on them that can be prevented, but to eaſe both the anchors and cables whenever it can be done, by making the ſhip as ſnug as poſſible in blowing weather, by ſtriking the yards and topmaſts, &c. &c. I muſt here beg leave to obſerve, that the preſent method of ſtriking yards and top-maſts in the Navy, is only to lower the top-maſts with the fidd-hole only 3 or 4 feet below the truſſel trees of the lower maſts, and the lower yards, not more than 6 or 7 feet. This is the new mode or faſhion of ſtriking yards and top-maſts, and often have I ſeen a great Fleet riding ſo, when my heart has ached for them, and ſorry have I been to ſee ſome of them part their cables and drive a-ſhore with their yards and top-maſts, as I have mentioned, inſtead of making their ſhip as ſnug as poſſible, in order to ride out the gale. This is not an Officer like proceeding; and as the anchors and cables are often the ſeaman's laſt ſhift, hope and ſecurity, when it is ſtormy weather, in a Road-Stead or on a lee-ſhore; it is then the ſeaman's all depends on them. I muſt in this place beg leave to make one obſervation more, which is, when any thing has got as much weight or ſtrain upon it, as it can bear, particularly anchors and cables, the leaſt additional ſtrain will break and deſtroy them; when a ſeaman conſiders this circumſtance, I ſhould naturally ſuppoſe he would take particular

Anchors aad cables to be eaſed of any ſtrain on them when it can be done.

care

care that no ſtrain ſhould ever be put on them that he could prevent, when he conſiders his very exiſtence depends on them.

An officer will be judged of by his actions.

To make a ſhip ſnug when ſhe is at anchor in a ſtorm, is a tranſaction, that ſhews the Seaman and Officer, as much as any thing I know; and every Seaman that ſees the Officer prepare his ſhip properly to ride out a ſtorm, at an anchor, will give him great credit for it; but if he does not perform that part of his duty like a Seaman, he will be blamed, cenſured, and condemned, by every judicious Seaman and Officer, that ſees, or hears of him, or of his injudicious conduct; they muſt think him deficient of profeſſional knowledge, abilities, and experience.

To make a ſhip ſnug in blowing weather.

I will ſuppoſe a ſhip riding at an anchor, in a Road-Stead; and as I have ſaid in the foregoing pages much about anchors and cables, and how to prepare a ſhip to ride out a ſtorm, and what ſcope of cable ſhould be given to a ſhip in ſuch caſes, I therefore ſhall ſay nothing more of it in this place, but ſhall proceed to what relates to making a ſhip ſnug, to ride out a ſtorm, &c. and what follows, will ſhew how a ſhip ſhould be made ſnug, to ride out a ſtorm when at anchor in a Road-Stead, or elſewhere.

To get down the top gallant yards.

I will ſuppoſe it is moderate weather, and it comes on to blow freſh gales; in that caſe it is cuſtomary to get down the top gallant yards.

To lower the lower yards, and ſtrike the top gallant maſts.

I will ſuppoſe the weather to come on to blow ſtrong gales; in that caſe it is cuſtomary to lower the lower yards; and ſtrike the top gallant maſts.

To ſtrike yards and top-maſts and point the top-ſail yards to the wind.

I will ſuppoſe it bad weather, and it comes on to blow hard gales; it that caſe it is cuſtomary to ſtrike the yards and top-maſts, if the lower yards have not been lowered before, and to point the top-ſail yards to the wind.

To make a ſhip ſnug in a violent ſtorm.

I will ſuppoſe the gale ſtill increaſing, ſo that it comes to blow a violent ſtorm, and the ſhip is in danger of parting from her anchors and cables. In this caſe it is cuſtomary to get the top-gallant maſts down upon deck, and to lower the top-maſts cloſe down with their croſs trees on the caps of their lower maſts, and to get the top-ſail yards fore and

aft

aft in the tops, to lower down the mizen yard, and ſtrike the mizen top-maſt, to rig in the jib boom, and get the ſprit ſail yard fore and aft along the bow ſprit, or in a great ſea, to get it upon deck, and to lower the lower yards cloſe down, and to get them as much fore and aft as poſſible; by doing this the ſhip is made ſnug for riding out the ſtorm.

A ſhip made as ſnug as ſhe poſſibly can be in a violent ſtorm.

But ſomething more may and has often been done, when the ſtorm has been very violent, and of long continuance, and a ſhip is riding near a lee ſhore, and ſhe is thought to be in great danger, and is what I have been doing many times in the courſe of my ſervice, which is, to get the top-ſail yards down upon deck, and to unrig the top-maſts; by doing this the ſhip is made more ſnug than before, and will ride leſs ſtrain on her anchors and cables.

The ſeaman's laſt expedient in a ſtorm.

The ſeaman's laſt ſhift when in ſuch a ſituation, as before-mentioned, and on a lee ſhore, and the ſhip is thought to be in imminent danger; in order to ſave the ſhip and mens lives, it has been thought expedient to cut away the maſts, for the preſervation of the ſhip. This is a terrible expedient, but *Neceſſity has no Law.* I bleſs my God, during my long ſervice, this never happened to me, though I have known it happen to many. Sometimes through fear and confuſion, it has been done without any real neceſſity; when I conſider this, and the many ſevere trials the ſeaman muſt expect to meet with in the courſe of ſervice, makes me ſay, *How good a man, a ſeaman ought to be, and how many good qualities he ſhould be poſſeſſed of, when ſo much depends on his own conduct.* This thought alone, I ſhould think would make him careful, diligent, and obſervant in all things, relative to his profeſſion.

I will ſuppoſe a ſhip at anchor on a lee ſhore, in bad weather, and it is abſolutely neceſſary to get her under ſail, as it is found hazardous for the ſhip to remain any longer in the ſituation ſhe is in, and therefore every endeavour muſt be uſed, and every expedient tried, to get the ſhip under ſail, in ſuch a manner, that ſhe may not come nearer the lee ſhore, in getting under ſail; this is again a trial, for the experienced

rienced ſeaman to diſplay his knowledge and abilities, as a Seaman, and an Officer.

To get a ſhip under ſaii when riding at anchor in bad weather on a lee ſhore.

I will ſuppoſe the ſhip at anchor on a lee-ſhore, as before-mentioned, and there is a rough ſea, and an high wind, and the ſhip muſt through neceſſity be got under ſail. The yards and topmaſts up, if not, they muſt be got up; the firſt thing to be done is, to conſider which way you will caſt your ſhip's head; I will ſuppoſe you intend to caſt her head to port, ſo that ſhe may be on the ſtarboard tack, when got under ſail, ſuppoſing that to be the way ſhe will clear the land beſt; admitting that to be the caſe, I will get the end of my ſtream cable, or the end of a very good hawſer, out of the after port, on the ſtarboard quarter, and paſs the end forward, and put it on with a rolling hitch, upon the cable the ſhip rides by, and bring it to the capſton, and heave it tight, and I would then prepare all things for ſetting my ſails, and will ſuppoſe the top-ſails to be double or cloſe reeft. I will haul in the larboard braces of the after yards, and brace them ſharp up, and the ſtarboard braces of the head yards, and to have the fore main top maſt and mizen ſtay ſails ready for hoiſting, and the mizen ready for hauling out. I would then looſe the topſails as quick as poſſible, and ſheet them home, and looſe the courſes at the ſame time, then place hands ready to cut the cable and ſpring, and have hands placed ready for filling the head-ſails, and for hauling on board the main and fore tacks as expeditiouſly as poſſible. The men being ſtationed, and all things ready, the helm to be put to port, then cut the cable, the ſpring will caſt the ſhip's head the right way, and at the ſame time will give her a little headway; and when the ſhip's head is caſt enough for the ſails to be full, then brace about the head yards, fill the ſails, and cut the ſpring, haul on board the main and fore tacks, and ſet the courſes as ſoon as poſſible, and hoiſt the fore main top-maſt and mizen ſtay ſails, haul out the mizen, and trim all your ſails to the beſt advantage, to ſtand cloſe hauled upon a wind, and endeavour to claw off a lee ſhore.

Having

Having ſaid much, and dwelt long upon the ſubject of a ſhip at anchor, in different ſituations, and in all ſorts of weather, and have ſaid as much as I think may be neceſſary for the inſtruction of ſeamen in general, which I hope will be found of ſome advantage to them, I ſhall now begin with the ſubject and nature of weighing a ſhip's anchor, caſting her, and getting her under ſail, tacking, and working her to windward, both in fair and foul weather, under the various circumſtances and difficulties that may occur.

To Caſt a Ship upon the Starboard Tack, with her head to Port, when at Anchor in a Tide's way, the Wind and Tide going the ſame way.

To caſt a ſhip when the wind and tide are ruuning the ſame way.

I will ſuppoſe the ſhip hove ſhort on her anchor, in order to weigh, and the top-ſails are hoiſted, and the after yards are braced ſharp up with the larboard braces, and the ſtarboard braces of the head ſails are hauled in as much as may be neceſſary for caſting the ſhip, the wind is nearly right a-head, and the mizen is ready for hauling out, and every thing prepared for weighing the anchor, the jib and ſtay-ſails are alſo looſe, ready for hoiſting. If you are dubious of the ſhip's caſting the way you would have her, as you now want to caſt her head to port; in this caſe I would let fall the larboard clew garnet of the fore-ſail, and haul up the larboard fore bowline, which will have a powerful effect upon the ſhip, in caſting her. In this ſituation, you are to pay ſtrict attention to the helm, and to put it to ſtarboard, till the anchor is away, and keep it ſo as long as the tide runs aft, but as ſoon as the ſhip looſes her way, and the tide ceaſes to run aft, and the ſhip begins to have ſtern-way through the water, which ſhould be ſtrictly noticed, and then to put the helm hard to port, the water acting upon the back of the rudder, will caſt the ſhip out the right way; but as ſoon as you are ſure the ſhip will caſt the right way, the helm may be put a-weather, which will prevent the ſhip's falling too much off from the wind, it being then on the ſtarboard bow. The head ſails may be ſquared until the anchor is hove up, and the mizen hauled out; it ſhould be the ſeaman's endea-

vour to heave his anchor up as ſoon as poſſible, and to ſtow it before he makes ſail.

To Caſt a Ship upon the Starboard Tack with her head to Port, when it is ſtill Water, or there is no Tide.

To caſt a ſhip when it is no tide, or ſlack water.

I will ſuppoſe the ſhip hove ſhort on her anchor, and there is no tide, the top-ſails are hoiſted, and the after yards are braced ſharp up with the larboard braces, and the head ſails are braced ſharp up with the ſtarboard braces, and every thing is ready for weighing the anchor; in this caſe, the helm is to be put to port. If you are dubious of the ſhip's caſting the right way, then let fall the larboard clew garnet of the foreſail, and haul up the larboard fore bowline, till the anchor is away, and when it is away the foreſail may be hauled up, and the helm may be put a-weather, to prevent the ſhip's falling too broad off, as ſhe has freſh ſternway, and the head ſails may be ſquared, and the mizen hauled out, until the anchor is hove up, then the helm to be put a turn a lee, and if poſſible, to ſtow the anchor before you make ſail, where you have room to do it.

To Caſt a Ship on the Larboard Tack, or with her Head to Starboard, when riding in a Tide's way, with the Wind a Point, or two Points on the Starboard Bow.

To caſt a ſhip on the larboard tack when the wind is a point or two on the ſtarboard bow.

I will ſuppoſe a ſhip at anchor in a harbour, where there is not room or ſpace to work a ſhip, and you want to get your ſhip under ſail, to go up or down the harbour, and there is not room to caſt your ſhip with her head to port, and the wind is two points on the ſtarboard bow. In this caſe, it will be impoſſible to caſt the ſhip's head to ſtarboard, or to get her on the larboard tack. What is to be done? In this caſe, I would carry out a ſmall anchor and hawſer, on the larboard bow, and take the hawſer in on the larboard quarter, and when I was a peak with the bower anchor, and the windward tide begins to make, I would heave my ſhip's ſtern up by the hawſer, and bring the wind on the larboard bow; I would then looſe the three top-ſails, and hoiſt them, and brace the after yards ſharp up with the

ſtarboard

ſtarboard braces, and haul in the larboard braces forward; the jib and and ſtay ſails ſuppoſed to be ready for hoiſting, and put the helm to ſtarboard, you may then weigh your anchor, and get under way, and clear the ſhore, and run up or down the harbour, as it may be neceſſary to do.

To Caſt a Ship upon the Larboard Tack when riding with the Wind right a-head to turn or veer her ſhort round before the Wind when there is but little ſpace or room.

In this caſe, I will ſuppoſe the ſhip a peak upon her anchor, the head ſails ſhould only be looſe; I would hoiſt the fore top-ſail, and looſe the foreſail in the brails, and brace the head yards ſharp up with the larboard braces, hoiſt the jib, and fore top-maſt ſtay-ſail, and haul the larboard ſheets flat aft, and if there is a lee tide running at the time you are ready for weighing the anchor, the helm ſhould be put to port, to bring the wind a little on the larboard bow, then I would weigh the anchor, the helm to be kept to port till the tide ceaſes to run aft, which ſhould be noticed by the water along ſide, then to put the helm hard to ſtarboard, on a lee, and when the ſhip gets ſtern way, the water will act very powerfully on the back of the rudder. In that direction to turn the ſhip's ſtern to windward, whilſt the wind acting at the ſame time upon the head ſails, being a-back, will box her round upon her heel, ſo as to bring the wind almoſt aft, by the time ſhe looſes her ſtern way; when the ſhip will ceaſe falling off, and ſoon get head way, which ſhould be attended to, and then the head ſails to be braced about flat with the ſtarboard braces, and the helm to be ſhifted to hard a-port; at the ſame time your ſhip will wear, and ſteer, and be under command of her helm and ſails.

To caſt a ſhip on the larboard tack when the wind is right a-head, and clear her ſhort round when there is but little room.

To tack a Ship when in a Dangerous Situation to a Rough Sea, when her ſtaying may be thought doubtful, and it may be Dangerous if the Ship miſſes Stays, ſuppoſed to be upon the Larboard Tack.

Such circumſtances certainly deſerve attention. As ſafety may depend upon good management, the ſeaman at this time ſhould be thoughtful,

To tack a ſhip in a rough ſea when her ſtaying is doubtful.

ſteady, and collect all the knowledge that experience has furniſhed him with; every thing ſhould be ready and clear, the people properly ſtationed, the ſails fairly trimmed, the ſhip conned, and well ſteered, juſt full and by the wind, but to be a good full, that ſhe may have freſh way through the water, to make her ſtay, and if it is a rough ſea, to take the advantage of the firſt ſmooth time, when the ſhip has as much head way upon her as can be expected, to haul down the jib and fore top-maſt ſtay-ſail; if ſet at ſuch times it is of great ſervice (and indeed it ſhould be done at all times when the ſhip is to be put about) and not to put the helm a-lee all at once, but to put it gradually down a-lee, and not to call out the helm's a-lee, but to call out ſtand by and be all ready, by which the people will know the helm is a-lee, or is putting a-lee, until the ſails begin to lift or ſhake, and then to call out the helm's a-lee, to let go the fore-ſheet, fore top bowline, &c. but the fore top-ſail braces to be particularly attended to, to let go the lee brace, and haul in the weather brace a little juſt enough to ſhake the ſail, and as ſoon as the ſail takes a-back, to haul in the lee brace again, as much as not to lift or ſhake the ſail; and if the ſhip ſeems ſlack in ſtays, it has been my cuſtom to have a man by the lee brace of the fore yard, to check a little of it, to bring the foreſail a-back, which I have always found to anſwer my expectation: If the ſhip comes too, ſo as to bring the wind to be a point on the weather bow, or within a point of being right a-head, I would diligently obſerve when the ſhip had loſt her head-way, and order the helm to be put from hard a-lee, to hard a-weather, off tacks and ſheets, and haul main-ſail, the wind being on the weather bow, ſwings the yards ſharp round, which helps the ſhip's ſtern round the right way, and aſſiſts her in ſtays, and the helm being put a-weather, and the ſhip's having freſh ſtern way, helps her about; the main tack may be got cloſe down, whilſt the head ſails becalm the fore leech of the main and main top-ſail, at the ſame time, the wind blowing aſlant on the after leech of thoſe ſails, acts jointly with the rudder, to turn the ſhip's ſtern ſo as to bring her about the right way; when a ſhip comes about at ſuch times as thoſe, ſhe is ſure to have freſh

freſh ſtern-way by the time the head ſails are hauled, or it is time to call haul off all, therefore the helm ſhould be ſhifted from being to port or a-lee, to hard to ſtarboard, or hard a-weather, till the ſhip's ſternway ceaſes; the water acting upon the weather ſide of the rudder, prevents the ſhip from falling round off from the wind, which the helm when hard a-lee occaſions, whilſt the ſtern-way continues, ſo that the weather braces of the head ſails ſhould be well attended, and kept well in, to prevent the head yards from flying fore and aft, as they will do if it blows freſh, and to keep the head ſails ſhivering, that the fore tack may be got eaſily on board, and when the ſhip has loſt her ſternway, then to ſhift the helm a-lee, and when the ſhip is perceived to come too, the head ſails to be trimmed ſharp, and the bowlines hauled, &c. &c.

When a ſhip is ſailing upon a wind, and it blows freſh, and the bowlines are well hauled, and all the ſails are properly trimmed, the lee braces of the top ſail yards ſhould be let go. *A Reaſon given for it, viz.* When the lee braces are let go, and there is a chopping head ſea, the ſhip will have a pitching motion, and as ſhe ſends forwards, the top ſail yards will ſwing a little with the motion of the ſhip, which will add to the ſhip's way through the water, and make her ſail faſter, but if the lee braces of the top ſail yards are kept faſt belayed, it is a great diſadvantage to the ſhip's ſailing, and there is a great riſque in ſpringing the top ſail yards. I have known many top ſail yards carried away in the ſlings, by keeping faſt the lee brace at ſuch times as thoſe that I have mentioned.

On Box-hauling a Ship, though moſt frequently termed by Seamen, Fox-hauling.

To Box-haul a ſhip when ſhe refuſes ſtaying.

I muſt here obſerve, that many advantages as well as ſafety, often depends upon this being properly put in practice, for it oftens happens that a ſhip refuſes ſtays, when there is not room to wear in time, ſo as to avoid danger, by the common method of working a ſhip, therefore, whenever a ſhip is in a dangerous ſituation upon a lee ſhore, or other-

wiſe,

wiſe, ſome expedient muſt immediately be thought of, and inſtantly done, to ſave the ſhip from ruin, and to ſave mens lives, therefore I will ſuppoſe all hands upon deck, and the ſhip is prepared for ſtaying, or to be put about, though the wind and ſea are ſo high, that we are not to expect the ſhip will ſtay, or come about, but the people are to be told what is meant to be done if the ſhip will not ſtay, that they may be prepared to work the ſhip, in the following manner. The ſhip ſuppoſed to be on the larboard tack, the helm is to be put a-lee in the uſual manner, fore ſheet and fore top bowline let go, and the ſhip put in ſtays, and it is perceived the ſhip does not come too, or ſhe ſtops coming too, before ſhe brings the wind a-head, it is then certain ſhe will not ſtay, therefore ſhould be immediately boxhauled, by keeping the helm hard a-lee, and haul off all, by bracing about all the yards, the head as well as the after ſails, and hauling up the lee fore and fore top bowlines, up mizen, and haul down the after ſtay ſails at the ſame time. The wind will then act upon the ſails thus a-back, and the water upon the lee ſide of the rudder by the ſhip's ſtern way, will box the ſhip ſhort round upon her heel, with her ſtern up to the windward, far enough aft for the after ſails to draw full the right way, and to act with the helm, which muſt now be ſhifted from that ſide where it was hard a-lee, when the ſhip was tried to ſtay, to that ſide that was hard a-weather when the ſtern way ceaſes, ſo that the head-way with the wind ſo far aft, will readily bring the ſhip round on the other tack; the main and fore-tacks may be eaſily got in aboard. When the wind is upon the quarter and ſhivers the ſails, the main ſheet to be hauled aft, and the after ſails braced up and trimmed ſharp, as the ſhip brings the wind more aft, which will help her round the faſter, till the wind comes on the other quarter, then the mizen and mizen ſtay-ſail may be ſet, to take the right way to bring her to the wind, while you tend and trim the head ſails as the ſhip comes too, and bring the ſhip cloſe to the wind, with all the ſails properly trimmed and the bowlines hauled, &c.

Further

Further Remarks on Box-hauling a Ship.

Box-hauling a ſhip, may be proved to be the ſureſt and readieſt method to get a ſhip under the command of the helm and ſails, to anſwer many occaſions in little room, as well as to wear and to bring her from one tack to the other, with the leaſt loſs of ground to leeward, when a ſhip refuſes ſtays. A ſhip in box-hauling, may be ſaid to make two half boards, firſt running with her head, and then with her ſtern up in the wind, by which two motions, a ſhip well managed, rather gains to windward, and bring the wind almoſt aft by the time the ſternway ceaſes, ſo that the ſhip is under the command of the weather helm and the after ſails, to bring her ſhort round on the other tack, with the firſt of the headway, in which time only it is that the ſhip goes any thing to leeward, worth notice in box-hauling, which ſufficiently ſhews its utility; therefore it ſhould always be put in practice on thoſe occaſions, by putting the ſhip in ſtays, though it is known ſhe will not come about with her head to windward; and in a gale of wind and high ſea, or when there is not people enough to manage and haul the head ſails at the ſame time, the after ſails only may be hauled, and the fore ſheet hauled cloſe aft again, when it is perceived that the ſhip has not done coming too, and ſo wear the ſhip round on her heel, keeping the helm hard a-lee, till the ſternway ceaſes, and then the helm to be put hard a-weather, and great attention to be paid to the management of the head ſails; when the wind is well aft, to ſquare the head-yards, and to trim the head ſails as before-mentioned, and bring the ſhip cloſe to the wind, with all the ſails properly trimmed, and the bowlines hauled, &c.

Advantages gained by box-hauling.

Another method of box-hauling a ſhip, if ſhort handed.

To ſtay a Ship in moderate Weather, with all her Sails ſett, and turning to Windward

I ſhall ſuppoſe a ſhip in moderate weather, with all her ſails ſet, and ſhe is turning to windward. This is a circumſtance that deſerves ſome attention

Conſiderations on putting a ſhip about, and working to windward.

attention of the ſeaman, who is to conſider what it is, that makes a ſhip come about, or ſtay, or work to windward; he is to conſider that it is the ſails that give the ſhip freſh way through the water, which makes her feel her helm, by which ſhe is brought about from one tack to another, with the aſſiſtance and help of the ſails, and with the prudent management of the experienced ſeaman, from whom much is to be expected. Though there ſeems no great art in putting a ſhip about and working her to windward, yet this is a thing that every ſeaman does not rightly underſtand, and therefore miſmanagement in working a ſhip, has often produced ill conſequences, much trouble and perplexity, and a ſhip gets an ill name, as being unmanageable in ſtays, and in her working to windward, when the miſcarriage lies intirely in the ſeaman, in his not having knowledge or ſkill enough to work the ſhip in a proper manner.

Of putting a Ship about in a proper Manner, when ſhe is turning to Windward.

Putting a ſhip about in moderate weather.

I will ſuppoſe it moderate weather, and the ſhip on the larboard tack, and all her ſails ſet, and all hands are upon deck and properly ſtationed, ready to put the ſhip about. I would haul down the jib and fore top-maſt ſtay ſail, I would order the helm's-man to put the helm a-lee, but would not call out the helm's a-lee till the ſails begin to lift or ſhake, and then to call out the helm's a-lee, let go the fore ſheet, and fore top bowline, &c. but the fore top ſail braces to be particularly attended to, to let go the lee brace, and haul in the weather one a little, juſt enough to ſhake the ſail, and as ſoon as the ſail takes a-back, to haul in the lee brace again, as much as not to lift or ſhake the ſail, and if the ſhip ſeems ſlack in ſtays, it has been my cuſtom to have a man by the lee brace of the fore yard, to check a little of it, to bring the fore-ſail a-back, which I have always found anſwer my expectation. When the wind is about three points on the weather bow, I would cry off tacks and ſheets, and when the wind is about a point on the weather bow, or within a point of being right a-head, I would call, haul main ſail,

ſail, and would diligently obſerve, when the ſhip had loſt her head way, and order the helm to be put from hard a-lee to hard a-weather, get the main tack aboard, and trim the after ſails, and when the wind was about three points on that that was the lee bow, the ſhip having ſtern way, I would ſhift the helm from hard a-lee to hard a-weather, to prevent the ſhip's falling too broad off, which the water taking the back of the rudder will prevent: when the after ſails begin to be full, I would haul off all, taking care to keep in the weather braces of the head ſails, till the ſhip ceaſed falling off, to get aboard the fore tack, and when the ſternway ceaſes, then to ſhift the helm a-lee, and as the ſhip gathers headway, and comes too, to haul aft the fore ſheet, and trim the head ſails, and haul the bowlines, hoiſt the jib and fore top-maſt ſtay-ſail, and the ſhip will be in proper order on the ſtarboard tack, and ready for being put about again in the ſame manner as before.

On the management of the fore top-ſail braces, when a ſhip is to be put about.

As I have mentioned particularly the management of the fore top-ſail braces, in putting a ſhip about, I will here give my reaſons. When the Officer who works a ſhip calls out the helm's a-lee, I know it is but too cuſtomary for people who attend the weather braces of the fore top-ſail and top gallant ſail, ſo as almoſt to ſquare the ſaid yards, which they think helps the ſhip in coming about, but this is a miſtaken idea, for it has the contrary effect, it ſtops the ſhip's head-way through the water, and is the principal cauſe of her not ſtaying, for as the ſhip loſes her headway, ſhe loſes the power of her helm, (which is the principal cauſe of her coming about) with the aſſiſtance of her ſails properly managed, as before-mentioned, and inſtead of hauling in the weather braces ſo much, ſo as to deaden the ſhip's way, they ſhould be only hauled in a little, juſt to ſhiver the ſail, and as the ſail takes a-back, the lee brace ſhould be hauled in again as much as they can, to help the ſhip about; this will not ſtop the ſhip's way, as when the yards are ſquared right athwart the ſhip's noſe, which is contrary to ſenſe and reaſon.

On the management of the jib and fore top-maſt ſtay-ſail, when a ſhip is to be put about.

And in putting the ſhip about with the jib and fore top-maſt ſtay-ſail ſet, I have ſeen many inſtances of ſhip's in company, being baulked in

by that means. The people on the forecaſtle, either let go the ſheets too ſoon, or too late, and are ſo intent in getting the jib and fore top-maſt ſtay-ſail ſheets over the other way, to ſave themſelves trouble. I have ſeen them haul the weather ſheets over before the wind has been a-head, by which the ſails have been made a-back ſail, and has as ſuch, acted againſt the ſhip ſo as to prevent her ſtaying or coming about. This is a ſufficient reaſon for hauling down the jib and fore top-maſt ſtay-ſail, before the ſhip is put in ſtays.

The ill effects of the jib and fore top-maſt ſtay-ſail, after the ſhip is put about.

Another reaſon I would give is, that if a ſhip ſhould ſtay with thoſe ſails out, the ſheets are hauled flat aft, before the ſails are full, which makes the ſhip fall broad off more than ſhe would do, if they were hauled down, by which means the ſhip loſes ground in getting to windward.

Further Remarks on a ſhip turning to windward in narrow ſeas, or in pilot water.

When a ſhip is turning to windward in narrow ſeas, or in pilot water, great allowance ſhould be made for a ſhip's ſhooting a-head in ſtays; after the helm is put a-lee, a faſt ſailing ſhip will ſhoot a great diſtance, for which proper allowance is to be made; for the want of ſuch allowance being made, I have known ſhips ſhoot aſhore, or run on ſands or dangers that have been near them; and very ill conſequences have enſued from it.

Some Remarks and Obſervations of the Method and Manner of making a Ship Snug, and preparing her for a Gale of Wind, when the Ship is at Sea, and under Sail.

This is another tranſaction that ſhews the Seaman and the Officer, as much as any thing I know, and if properly performed, will do him much credit, and his actions will be approved of by every judicious ſeaman, and though they do not ſee his actions, they will hear of it, and will either applaud or blame him, as his conduct may deſerve.

A ſhip being at ſea, in moderate weather, of courſe will have all her ſails ſet, but on appearance of bad weather coming on, the ſeaman will take in his ſails as the gale increaſes. When a ſhip is put under double

reeft

reeft top-ſails, it is cuſtomary to get down the top-gallant yards, and when the third reef is taken in the top-ſails, the weather ſheet ſhould be clewed up, and the lee-ſheet ſhould be ſtarted and partly clewed up, for the conveniency of reefing the ſail, and it may ſo happen, that it may be neceſſary to clew the ſail up entirely. I have known many ſails ſplit in hauling out the weather reef tackle, occaſioned by not clewing up the weather ſheet. It is cuſtomary to ſtrike the top-gallant maſts, and to hand or take in the mizen top-ſail.

The Gale keeps increaſing with a great ſea, it is judged proper to take in the top-ſails, as the ſhip ſtrains and makes water, to take in the top-ſails, the weather clewline to be hauled up firſt; and alſo the maſts and rigging has been much ſtrained, the judicious ſeaman will then begin to think now to make his ſhip as ſnug and as eaſy as poſſible; he will get the top-gallant maſts down upon the deck; the top-ſails being handed, he will brace the yards to the wind, and he will get the ſtudding ſail booms from the lower yards down upon deck, that they may be ready for reefing the courſes, and he will rig in the jib boom, and get the ſprit-ſail yard in upon the deck. The rigging in the jib boom and getting the ſprit-ſail yard in upon deck, is a great eaſement to the ſhip and bowſprit, nothing can be done that is more neceſſary. The ſhip is now under her courſes, and it blows a ſtorm and there is a very great ſea; it blows ſo hard that the ſhip will not bear her courſes, the judicious ſeaman then will ſee what is next to be done. It is thought proper to lay the ſhip too under a main-ſail, the fore-ſail and mizen muſt be hauled up with great care and caution, to prevent ſpliting the ſails in taking them in. Of this I ſhall ſpeak more off in another place. To haul up the weather clew garnet of the fore-ſail firſt when taking in the ſail, I will ſuppoſe the fore-ſail and mizen hauled up, lower down the fore and mizen yards, reef the fore-ſail, and reef and ballance the mizen, and have thoſe ſails ready for ſetting.

The gale increaſes to a violent ſtorm, with a monſtrous great ſea, and the main-ſail is more than the ſhip can bear, or it is thought impoſſible for the canvaſs of the ſail to bear the ſtorm; in this caſe, it

is judged proper to take in the main-ſail, and to lay the ſhip too, under a reefed and ballanced mizen; but then, how to take in the main-ſail, is a thing of ſuch conſequence, as to require great care and attention, to do it without ſplitting the ſail; it is a matter that requires both judgment and experience, the uſual way of hauling up the main-ſail will not do; many things muſt be done preparative to taking in the main-ſail in a violent ſtorm, many things muſt be done to ſave the ſail from being ſplit and blown away, and perhaps ſuch an accident happening, may be the loſs of the ſhip's maſt, or things of very ſerious conſequence happening. The firſt thing to be done, ſhould be to fix preventer clew garnets, then to have three ropes put over the main yard, and put down before the ſail, taken under the foot of the ſail, and carried up to the main-yard again, and the end made faſt, thoſe three ropes to be reeved through leading blocks, where they can be made to lead to; ſuppoſe one to the weather gunwale, one to the fore part of the quarter deck, and one upon the main deck, that one rope that leads on the main deck to come over the main-yard, near the jeer blocks. The rope that leads to the fore part of the quarter deck, to be about the quarter of the yard, and the rope that comes to the gunwale, to be as far out upon the yard as it will lie. I have been ſpeaking of the weather yard arm, the like to be done to the lee yard arm, and when all is ready prepared, you muſt watch a favourable opportunity to haul up the main-ſail.

How to take in the main-ſail in a ſtorm.

I ſhall ſuppoſe the mizen to be reefed and ballanced, and the mizen yard ſwayed up, and mizen in ready for ſetting, and you have all ready for hauling up the main-ſail, then obſerve when the ſhip is falling off, as far as ſhe uſually has done, and ſhe is coming too again, then ſtand by when the ſhip is to come too as high as ſhe will come, then haul out the mizen and haul up the weather clew garnet of the main-ſail, the weather buntlines and leechlines, and the three ropes before ſpoke of that go over the yard, which will prevent the ſail from ſhaking, and will haul up the weather yard arm of the ſail very ſnug. By the time you have done this, the ſhip will be falling off as far as ſhe will go, and

To lay a ſhip too under a reeft and ballanced mizen.

as

as ſoon as ſhe is come too again, then haul up the lee clew garnet of the main-ſail, the lee buntlines and leechlines, and the lee yard ropes, as before-mentioned, that go over the yard, which will prevent the ſail from ſhaking, and will haul up the lee yard arm of the ſail very ſnug; you may then ſquare the main yard, and lower it down for reefing the ſail, taking care to have good rolling tackles on the weather yard arm, of which the yard tackle makes one.

To reef the main-ſail.

The main yard ſhould be lowered pretty low, in order to reef the ſail, on account of the great number of men that will be required in a large ſhip, to be upon the yard to reef the ſail, and when the yard is high up on the maſt, the mens weight is a great additional ſtrain to the maſt, rigging, and ſhip, and it alſo endangers the mens lives, which ſhould always be a principal conſideration with a judicious Officer, and to take care to top the lee yard arm well up, to prevent the ſhip's rolling it in the water when the men are upon the yard, reefing the ſail.

Caution in reefing the main-ſail.

Again, if I found the ſhip to lye too, well under a reeft and ballanced mizen, and the ſtorm was likely to continue; in that caſe, when the main-ſail was reefed, I would furl the ſail and ſway the yard high enough to ſet the reefed main-ſail when wanted, and point the yard to the wind, as I think all the yards ſhould be, when the ſhip is lying too, as it gives the ſhip a little headway, and makes her more lively in the ſea, and prevents her having ſternway, which has proved dangerous to many ſhips; their having ſternway, and at the ſame time meeting with a towering reſiſting ſea, has ſtruck the ſhip with ſuch force, that has ſtove in her ſtern, and done her much damage; this is a circumſtance that ſhould be carefully guarded againſt, and, as I have before mentioned a ſhip in lying too, under a reeft and ballanced mizen, it behoves me to ſay ſomething about the helm. I would put the helm in midſhips, or not more than half a turn of the wheel a-lee, and would do the ſame if the ſhip was lying too under a main-ſail. Men may be kept to the wheel or helm, and ſteer the ſhip. I ſailed in

To brace the yards to the wind, a reaſon given for ſo doing.

The helm, how to be put when lying too.

in a ſhip many years, and we allways ſteered her when lying too, under a main-ſail, and found it anſwer every good end and purpoſe.

It blows ſo hard that the ſhip cannot bear the reeft and ballanced mizen.

I have ſaid above, the ſhip is lying too, under a reeft and ballanced mizen, and under this ſail ſhe lies too very well, but as it is a violent ſtorm, and a very high ſea, and though the mizen is reeft and ballanced, yet there is a very great ſtrain on the mizen maſt, the mizen yard being aloft, and the force of the wind being ſo great, it is feared that the mizen maſt is in danger, and it is alſo feared that the mizen ſail, or courſe cannot bear the force of the ſtorm, and ſhould it give way, the ſhip would fall off in the trough of the ſea, which may occaſion the loſs of all the maſts, and may be of a very fatal conſequence, which muſt be prevented if poſſible; in this caſe, the judicious ſeaman muſt again immediately employ all his thoughts and ſkill, that experience has furniſhed him with, and an immediate expedient muſt be found, which is as follows, viz.

A ſtorm, mizen contrived, and how to ſet it.

Take your ſpare fore ſtayſail, and put a proper number of gromets or cringles to the after leech of the ſail, and prepare a rope horſe to go the mizen maſt-head, abaft the maſt, and reeve the rope through the gromets or cringles that were put to the after leech of the fore ſtay ſail, as before-mentioned, and ſet the rope horſe as tight up as you can, by this means the ſail will be ſet in the following manner. The after leech, when it was a fore ſtayſail, will be now the maſt part of the ſail; the head of the ſail will ſtill be the hoiſting part of it, the ſheet part, when a ſtayſail, will now become the tack part, and the tack part, when a ſtayſail, will now become the ſheet part. This I call a ſtorm mizen.

To take in the mizen, and lower down the mizen yard.

When you are all ready for hoiſting the ſaid ſail, take care to keep it to the leeward of the mizen yard, take a favourable opportunity when the ſhip is come too, as high as ſhe will come, to take in the mizen, and lower down the mizen yard, as low as you can, and to ſet the ſtorm mizen, which I have found by experience to anſwer very well, and you will find your mizen maſt much eaſed, and your ſhip will be much more comfortable.

Some

Some Remarks and Obſervations made on the way and manner of taking in Ship's ſails, in bad and ſtormy Weather, through the miſtaken idea of ſeamanſhip, by which means great numbers of ſails have been ſplit, and much damage has been done to the Maſts, Yards, and to the Ship, and have often been the occaſion of the loſs of the Maſts.

The old way of taking in the topſails improper.

I ſhall ſuppoſe a ſhip upon a wind, and in a gale of wind, and ſhe has her topſails ſet, but it comes on to blow ſo hard, they are obliged to take in the topſails, the common way of taking in the topſails is, to haul up the lee clewline firſt, which, by the great force of the wind, occaſions the lee part of the ſail to ſhake and beat in ſo terrible a manner, as to ſplit the ſail, and ſometimes the ſail has been ſplit and ſhaken all to pieces, and blown entirely out of the bolt rope. This is a fact ſo generally known, that the truth of it will not be doubted; this ſhews a great abſurdity in ſeamanſhip, when the ſail may be taken in with eaſe and ſafety, without ſplitting a thread of the canvas, in the following manner, viz.

The proper way to take in the the topſails without doing any injury to the ſail.

The ſhip is upon a wind, and it blows a gale of wind, and the ſhip will not bear her top-ſails, therefore they muſt be taken in. In this caſe, I would act in the following manner, I would haul up the weather clewline firſt, and the buntline and ſpilling line, which will be hauled up with great eaſe, then man the lee clewline, buntline, and ſpilling line, then eaſe off the lee ſheet, haul up the lee clewline, buntline, and ſpilling line, have the weather brace well manned, and as ſoon as the ſail begins to ſhake, haul in the weather brace, and ſquare the yard, the ſail will lie very quiet, and the men may go up and furl the ſail, and when that is done, to point the yard to the wind. I have found by experience, that this method is by far the beſt, eaſieſt, and ſafeſt way of taking in the top-ſails in a gale of wind; and let who will try this method, they will find it ſo.

The Author has practiſed this method of taking in the topſails near 40 years.

The old way of taking in the courſes very improper.

I ſhall ſuppoſe a ſhip upon a wind, in a gale of wind, and ſhe is under her courſes, and it blows ſo hard that they are obliged to haul up the foreſail,

foreſails, and lay the ſhip too under a main ſail. The common way of taking in the courſes, foreſail or mainſail, is to haul up the lee clew garnet firſt, which by the great force of the wind, occaſions the lee part of the ſail to ſhake and beat about in ſo terrible a manner as to ſplit the ſail, and ſometimes the ſail has been ſplit and ſhaken all to pieces, and blown entirely out of the bolt rope, and blown all away from the yard, and more particularly, ſhould the clew garnet give way, which it is apt to do, from the great force of the wind, and weight of the ſail, which has frequently happened; when that happens to be the caſe, the ſail is, or muſt be inevitably loſt; the ill conſequences attending that, every ſeaman knows. This is a fact ſo generally known, that the truth of it will not be doubted. This ſhews his great abſurdity in ſeamanſhip, when the ſail may be taken in with eaſe and ſafety, without ſplitting a thread of the canvas, in the following manner, viz.

The ill conſequence of ſplitting a ſail in hauling it up or taking it in.

The proper way of taking in courſes without doing any injury to the ſail.

A ſhip is upon a wind, and it blows a ſtorm, and the ſhip will not bear her courſes, therefore the forecourſe or foreſail muſt be taken in, or in other words, muſt be hauled up; in this caſe, I would act in the following manner, I would have all my men ready to perform this ſervice, I would haul up my weather clew garnet firſt, and the buntlines, and leechlines, which will be hauled up with great eaſe, then man the lee clew garnet, buntlines and leechlines, and the weather fore brace, then eaſe off the fore ſheet, haul up the lee clew garnet, buntlines and leechlines, and when the ſail begins to ſhake, haul in the weather brace, ſquare the fore yard, and the ſail will be quiet, and you may lower down the fore yard and reef the ſail, taking care to top the lee yard arm well up, to prevent the ſhip's rolling it in the water, when the men are upon the yard reefing the ſail, taking care to have good rolling tackles on the weather yard arm, in which caſe, the yard tackle may ſerve as one; when the ſail was reeft, I would furl it, and ſway the yard higher up, high enough for ſetting the reeft foreſail, and brace the yard to the wind, as all the yards ſhould be when the ſhip is lying too, as before-mentioned, for the reaſons therein given.

I ſhall

I ſhall endeavour to ſay ſomething more with reſpect to a ſhip's lying too in ſtormy weather. I therefore ſhall ſuppoſe the ſhip lying too under a reeft and ballanced mizen, or under a ſtorm mizen, as before-mentioned, there are ſome ſhips will lye too beſt under a main-ſail, or a reeft main-ſail, ſome under a reeft and ballanced mizen, ſome under a reeft fore-ſail, and reeft and ballanced mizen; in this laſt caſe the ſhip will certainly forereach more, if it is thought neceſſary for her ſo to do, to clear any particular iſland, headland, or danger; ſome ſhips will lie too well under a main and mizen ſtay-ſail, but I do not mean the new faſhioned mizen ſtay-ſail, which is prepoſterous, beyond all reaſon, and he, whoever he was, that contrived that ſort of ſail, could not be a Seaman, it being more of a ſquare ſail than a ſtay-ſail. The ſail I mean for a ſhip to lye too under, is the triangular, or three cornered mizen ſtay-ſail, it is fit to ſet in a ſtorm, and ſome ſhips will make good weather under a main and mizen ſtay-ſail, with all the yards braced forward, which will give her a conſtant headway, and will make her lye too with the greateſt ſafety. This is a ſnug ſail, and the ſhip may weather out the ſtorm with ſafety therewith.

The different ſails a ſhip may lye too under in a ſtorm.

A ſhip may lye too under a cloſe reefed main topſail on the cap, as long as ſhe can bear that ſail it will keep a labouring ſhip quieter than any other ſail.

I ſhall ſtill ſuppoſe the ſhip in a ſtorm, and you ſhould have occaſion to ſet your reeft main-ſail or fore-ſail, or both; the firſt thing to be obſerved is, that your yard is a proper height for ſetting the ſail, the next thing is, the method to be taken how to ſet the ſail ſo as to run no riſque in ſplitting it; take care to top well up the lee lift, ſo that the tack or clew of the ſail may reach to the cheſt tree, and to have a purchaſe ready to bouſe the tack on board expeditiouſly, and do not get the clew of the ſail too cloſe down, it is better not, it lays leſs ſtrain on the tack and on the clew of the ſail; the tack being a-board, eaſe down the lee clew garnet carefully, and haul aft the ſheet as expeditiouſly as poſſible, to prevent the ſhaking of the ſail, and overhaul the lee lift, and brace up the yard, and get a preventer brace and a preventer lift, on the weather yard arm, and haul them well tight, to ſuccour the yard, which ſhould always be done. When the ſhip is put under her courſes, in

To ſet the courſes in a ſtorm when they are reefed.

order to ſuccour the lower yards, they ſhould be hauled very tight for that purpoſe.

How to ſuccour the weather clew of a ſail in a ſtorm, &c.

It was the cuſtom with experienced ſeamen, when the courſes were ſet in a ſtorm, to get a good luff Tackle to the outer buntline cringle, on the foot of the ſail, to the weather gunwale, as nearly upon a line with the foot of the ſail as poſſible, and to bowſe it well tight, in order to ſuccour the clew of the ſail, and alſo to get another luff tackle to the lower bowline cringle, on the leech of the ſail to the cheſt tree, as nearly upon a line with the leech of the ſail as poſſible, in order to ſuccour the clew of the ſail, and it has alſo been cuſtomary to put a good preventer ſtopper on the weather clew of the ſail, to ſuccour the main tack, to prevent any accidents happening to the ſail, ſhould the tack give way, which has happened in ſtormy weather, and alſo to paſs the lee fore and main tack aft, and take them in at port, or where they will lead beſt, and haul them well tight, to ſuccour the fore and main ſheets, &c. &c.

To wear a Ship in a Storm when under her Courſes, or reeſt Courſes, and there is a very high Sea.

To wear a ſhip in a ſtorm, when under her courſes, or reeſed courſes, when the ſea runs very high.

I will ſuppoſe it blows a ſtorm, and there is a very high ſea, and the ſhip is under her courſes, or reeft courſes, and it is abſolutely neceſſary to wear the ſhip, the judicious ſeaman will conſider well how this important part of his duty is to be performed with ſafety, propriety, and judgment; as there is a great riſque in performing this ſervice in a violent ſtorm, I therefore ſhall beg leave to ſay what I myſelf would do, was I in a ſhip in this ſituation.

I will ſuppoſe the ſhip to be on the ſtarboard tack, all hands being upon deck and properly ſtationed, and they being acquainted with the duty that is intended to be performed, which they ſhould be night or day in ſtormy weather, and all things being ready, I would endeavour to watch a ſmooth time to wear the ſhip; when that opportunity offered, I would haul up the weather clew garnet of the main-ſail firſt, buntlines, and leechlines, and the yard ropes, as mentioned in taking in the ſail in a ſtorm, [See page 140] then man the lee clew

clew garnets, buntlines, and leechlines, yard rope, and weather main brace, eaſe off the main ſheet, haul up the lee clew garnet, buntline, leechline, and yard rope, and when the ſail begins to ſhake, ſquare the main yard, but not ſo much as to back the ſail, to deaden the ſhip's way, then put the helm nearly a-weather, and by degrees hard a-weather, eaſe off a little of the fore-ſheet, let go the fore bowline, and round in a little of the weather brace, and as the ſhip wears, ſquare the main yard and top it to ſtarboard, and have all things ready for hauling on board the larboard main tack; the ſhip is wearing, and has brought the wind on the ſtarboard quarter, eaſe off the fore ſheet, and riſe the fore tack, and ſquare the fore yard, haul up the ſtarboard clew garnets, buntlines, leechlines and yard ropes, and as the ſhip wears, and the wind is brought well aft, I would hawl up the larboard clew garnet of the foreſail, buntlines, leechlines, and yard ropes; by this time the ſhip is right before the wind, I would keep her ſo, until I got the larboard main tack on board, I would then man the main ſheet well, and bring the ſhip to the wind gradually, keep hauling aft the main ſheet as the ſhip comes to the wind. On the larboard tack, and when the ſhip is brought cloſe to the wind, and the main ſail properly ſet, the yard braced and the bowline hauled, &c. I would then, if neceſſary, ſet the foreſail and top the yard to ſtarboard, in order to get the tack on board eaſy, then haul in the ſtarboard brace, and haul on board the foretack; when it was on board, eaſe down the leeclew garnet carefully, and hawl aft the fore ſheet, brace up the yard, and haul the fore bowline, and the ſhip will be under her courſes on the larboard tack, then brace the topſail yards to the wind, and ſhift the rolling tackles on them, haul well tight the lifts of the weather fore and main yard, and get preventer braces on them, and haul them well tight to ſuccour the yards, alſo paſs the lee fore and main tacks aft, and take them in at Port, or where they will lead beſt, then haul them well tight, to ſuccour the fore and main ſheets, &c. &c.

NOTE. Let it be obſerved, That in my Directions for wearing a ſhip under her courſes, and bringing her to the wind on the other tack, I wiſh

Caution in wearing a ſhip under her courſes.

I wiſh that ſeamen would rightly underſtand me. I firſt haul up the main ſail, as mentioned in that paragraph, and when the wind is well aft on the ſtarboard quarter, I haul up the weather clew garnet of the foreſail, &c. and when the wind is nearly aft, I haul up the larboard clew garnet of the foreſail, buntlines, leechlines, &c. and keep the ſhip nearly before the wind, until I get the main tack aboard, and haul aft the main ſheet, as the ſhip is brought gradually to the wind; the ſeaman's great care ſhould be, in performing this important part of his duty, that the ſhip in wearing in a ſtorm, when there is a great ſea, and the ſhip is flying at a great rate through the water, then in bringing the ſhip to the wind. On the other tack, all the care, caution and circumſpection in a man's power ſhould be uſed in bringing the ſhip to the wind, that ſhe does not meet a high towering reſiſting ſea; when ſhe is going ſo faſt through the water, ſhould that happen, it might prove fatal to the ſhip, as I have known it happen, and the ſhip has roſe no more. This is a matter of ſuch ſerious conſequence, that I think it would make a man of experience collect his thoughts, and make him exceeding careful in performing a ſervice of this kind.

Obſervation to be noticed.

OBSERVATION.—When the ſhip was on the ſtarboard tack, the topſail yards were braced ſharp to the wind, they remain ſo ſtill, after the ſhip is wore, the fore yard is ſquare with the foreſail in the brails; when the ſhip is coming to the wind on the larboard tack, thoſe yards being a-back, deadens the ſhip's way, and makes her come too more eaſy and gradually to the wind, ſo that ſhould ſhe meet with a riſing ſea, ſhe will not plunge ſo deep into it, as when ſhe has freſher way through the water. This I beg leave to mention, as I think it a neceſſary caution to be obſerved in wearing a ſhip in a ſtorm.

To wear a Ship when lying too under a Main-ſail or Reeft Main-ſail, without any other Sail ſet.

To wear a ſhip when lying too under a main-ſail or reefed mainſail.

I will ſuppoſe a ſhip at ſea in a ſtorm, lying too under a mainſail or reeft mainſail, and there is a neceſſity to wear the ſhip, and to bring her too on the other tack, under the ſame ſail, when there is a very great

great ſea; I will ſuppoſe all hands upon deck, and they are acquainted with what is intended to be done, and every body is placed in their ſtations, ready for performing this material piece of ſervice; all things being ready, I would watch the ſmootheſt opportunity of the ſea, to wear the ſhip, and when ſhe had come up as far as ſhe would come, and began to fall off, I would put the helm a-lee, (I will ſuppoſe the ſhip in falling off will have ſternway, the water will take the back of the rudder and make her fall round off, this is my reaſon for putting the helm a-lee until the ſhip gathers headway,) and looſe the fore ſtay-ſail, haul aft the ſheets, and hoiſt the ſail, and eaſe off the main ſheet, let go the lee main brace, and bowline, and round in the weather brace, and as the ſhip gathered way through the water, to make her feel her helm, without which ſhe cannot wear, I would then put the helm nearly a-weather, and as the ſhip falls off and gathers way, I would put the helm hard a-weather, and eaſe off more of the main ſheet, and keep rounding in the weather brace, taking care to bouſe the rolling tackle of the main yard well tight, to keep the yard from ſwagging from ſide to ſide, and when the ſhip is wore ſo far, as to bring the wind upon the weather quarter, I would haul up the weather clew garnet of the mainſail, buntlines, leechlines, and yard rope, to keep the ſail quiet, and when the wind was nearly aft, I would haul up the lee clew garnet of the mainſail, buntlines, leechlines and yard rope, then haul down the fore ſtayſail, and when the ſhip brings the wind to be a little on the other quarter, haul on board the main tack; that done, bring the ſhip gradually to the wind, eaſe down the lee clew garnet with care, and haul aft the main ſheet expeditiouſly; as the ſhip comes too, brace up the main yard, and haul the bowline; when the ſhip is brought to the wind, then brace about the foreyard and top ſail yard to the wind, they before having been a-back, will prevent the ſhip's having had too much way through the ſea; if ſhe meets with a towering reſiſting ſea, as mentioned in Page 147, in wearing a ſhip under her courſes. All things ſhould be done, as therein mentioned.

The character of a fine ſhip, and a faſt ſailer.

I ſailed in a Man of War ſeven years, ſhe was the faſteſt ſailer in the Navy, or perhaps in the World, at that time. I ſailed in her from the

the year 1736, to the year 1743, we always ſteered her under a main-ſail, or reeft mainſail, and ſhe ſailed as faſt under this ſail, as ſome ſhips would do with their courſes ſet, and ſhe wore under her mainſail. We never uſed any other ſail in wearing her in a ſtorm; when all was ready for wearing ſhip, put the helm a-weather, eaſed off the main ſheet, let go the bowline, and rounded in the weather brace of the main yard, and ſhe would wear ſhort round, in leſs ſpace than any other ſhip could do. She had every good quality that a ſhip could have, or more good qualities than any ſhip ever had; ſhe ſailed faſter than any thing that ſpread canvas; ſhe ſteered well, worked well, and would bear her ſails longer than any other ſhip I ever ſaw; ſhe ſtowed her men, ſtores and proviſions well, and had every conveniency and good property that could be wiſhed in a ſhip; ſhe had a full harpin, a raking ſtem, a long floor, and a clean tail, that is to ſay, a clean or fine run; her extreme breadth was at the cheſt tree; ſhe was fourteen inches broader there than ſhe was at the main maſt, or at the midſhips. Her extreme breadth being ſo far forward, lifted her over the ſea without ſhipping much water, and having a round bow, it divided the ſea, and ſhe paſſed eaſily through it, whilſt thoſe ſhips not ſo conſtructed, which had a ſquare beak head, plunged themſelves deep into the ſea, and their ſquare beak head made great reſiſtance againſt the ſea, which very much impeded their way through the water. She was ſtraight ſided, had no hollow in her ſide, and but very little tumble home, and was ſtraight ſheered, was not reckoned handſome, but was an excellent Man of War, carried twenty-two ſix pounders, but was built to carry twenty-two nine pounders, having fifteen inches more breadth than any ſhip of her claſs in the ſervice at that time. She had a round bow, not a ſquare beak head, as other ſhips had in thoſe days, which was of great detriment to them in a head ſea.

This extraordinary ſhip, as I will call her, was built by order of a Landſman, * and conſtructed by his directions, in oppoſition to the Surveyor of the Navy at that time, † about the year 1732 or 1733, who

* Lord Winchelſea, then at the Admiralty Board.

† Sir Jacob A..k....th.

who was to build another ſhip of the ſame rate, and conſtruct her for ſailing to the beſt of his judgment. The landſman ſaid he hoped his ſhip would prove the beſt ſailer. This ſhip was named the Dolphin, which I call my ſhip, from my ſailing ſo many years in her; ſhe was ordered to be built at the King's Yard, Deptford; and the Surveyor's ſhip, named the Sheerneſs, was ordered to be built at Weymouth. The Sheerneſs was ſo conſtructed as to carry her extreme breadth far abaft her midſhips, or nearly as far aft as the after part of the main channel, or in the ſeaman's phraſe, commonly called the main chains. Both ſhips were built and launched nearly at the ſame time, were commiſſioned and went to ſea together, in company with ſeveral new ſloops and bombs that had been lately built, to make a trial of their ſailing; there was in number ten ſail; they ſailed from the Downs down Channel, as far to the weſtward as the Iſlands of Scilly, came up Channel again, and went to Spithead; it was found upon their trial of ſailing, that the Dolphin did not only beat the Sheerneſs in ſailing, but outſailed all the reſt of the ſhips that were in company, with great odds; from this circumſtance, the Dolphin became the ſhipwright's envy and the ſeaman's delight. This ſhews that a landſman had a better idea of ſhip building, than the generallity of the ſhipwrights, or perhaps all of them put together, at that time.

When I conſider the imperfect idea of thoſe people at that time, who carried the extreme breadth of a ſhip abaft her midſhips, and ſome carried it two thirds of the ſhip's length from forwards, this they did, though contrary to common ſenſe and reaſon, which made a ſhip ſo conſtructed, to hang in the ſea as they paſt through it, and drag heavily on like a wedge in motion, with the ſharp end foremoſt, the farther and harder it is drove, the more it hangs and the leſs its motion; this made thoſe ſhips plunge their fore body deep into the ſea, whilſt their midſhip and after body hung them in the water, and made them paſs heavily through it, which greatly impeded their ſailing, nor would any reaſonable man expect they could ſail faſt, or bear their ſail well under thoſe diſadvantages of conſtruction; but this was the cuſtom and folly

of

of the times, accompanied with other imperfections, not yet got the better of with reſpect to the formation of a ſhip, and what ſhe ſhould be.

My favourite ſhip, the Dolphin, was the reverſe of thoſe ſort of ſhips I have been ſpeaking of, and therefore I ſhall beg leave to give a ſhort deſcription of her, and mention a few of her good and extraordinary qualities; in doing this, I ſhall ſpeak of her like a ſeaman, and uſe the language of one, as I do not pretend to be any thing more than a ſeaman, that has had much experience at ſea in ſhips.

Deſcription of the ſhip Dolphin.

Her extreme breadth was at the cheſt tree, or at one third of the ſhip's length from forward, ſhe had a raking ſtern, a full harpin, and a flaring bow, and ſhe had a round bow quite up to the top of the forecaſtle, not a ſquare beaked head, as the ſhips of thoſe times had; her extreme breadth being ſo far forwards with her full harpin and her flaring bow, lifted her over the ſea without ſhipping much water, and prevented her plunging deep into it, and made her ſail well in all weathers, and faſter than any other ſhip I ever ſaw; ſhe lifted herſelf up, and glided gently over that ſea which another ſhip would plunge deep into; where her fore-body went ſhe ſlid on, having no ill-formed midſhip or after-body to obſtruct her going through the ſea, or her ſailing faſt. She carried her extreme breadth conſiderably above the line of floatation, when ſhe had all in and was ready for ſea (which, with her great breadth, being broader than any other ſhip of her claſs) made her bear her ſail well in every kind of weather; her extreme breadth gradually increaſed full two feet above the line of floataion or waters edge, which gave her capacity to bear her ſails well, on all occaſions, and alſo contributed much to her ſailing ſo faſt; and ſhe having a ſtraight ſide, with little or no tumble home, was of great advantage to her, as it made her ſhip leſs water, and made her a dryer ſhip in rough weather than any other ſhip; the ſtraight ſide threw the ſea from her, whilſt a ſhip with a tumbling home ſide, with a hollow in it, throws the ſea into the ſhip, but ſhe having a ſtraight ſide, made her ſpread her rigging well, and gave her great room upon deck: ſhe had a ſtraight ſide, and therefore the ſtronger, as her timbers were not grain cut, as ſhips are obliged

obliged to be that have a hollow and tumble home in their ſide, which weakens the ſhip very much, is very detrimental to the ſhip, and takes away the ſpace and room from the upper deck, which is one of the greateſt advantages a ſhip can have for the people to have room to work her in every kind of weather, and particularly in bad weather. This ſhip was ſtraight ſheered, and was therefore the ſtronger, as the forming of her ports did not cut through the planks and thick ſtuff of her ſides and wales, which is the principal ſtrength and ſecurity of a ſhip; this is the caſe in ſhips that have a quick ſheer, which cuts the principal ſtrength of the ſhip in pieces, particularly the wales which were intended as the principal ſtrength and ſecurity of a ſhip. This is done merely for ſhow, or the look of the ſhip. In ſhort, this excellent ſhip, was ſo wiſely and properly conſtructed, that it did great credit and honour to her conſtructor, whom I always have thought muſt have taken his plan from the *Finny train*, and that too, from fiſh of the greateſt ſpeed in ſwimming, who in general have their extreme breadth about the ſhoulders, which anſwers to the extreme breadth of a ſhip, being at one third of her length from forwards, and as fiſh of ſpeed have always a fine after part or body, ſo had this ſhip, ſhe had a long floor, a fine or clear run, her ſtern poſt nearly upright, or with a very ſmall rake, which made her ſteer and ſail the beſt of any ſhip in the World. This character ſhe had as long as ſhe was in being, which was many years, but did not bear the ſame name.

A new ſhip of that name being built about the year 1752, of the ſame rate, and was built on the ſame plan that the other 20 gun ſhips were, that I have before-mentioned, who ſailed no better than a tub.

I happened to meet this new Dolphin in the Mediterranean, about the year 1754, I ſailed from Gibraltar with her in a ſhip I then commanded, belonging to London, who was deeply laden, and was not reckoned a good ſailer; we were bound up the Streights, as was the new Dolphin; I kept her company two days, ſhe ſailed but very little better than my deep laden ſhip did; and had my ſhip been in a proper trim for ſailing, I am fully perſuaded ſhe would have ſailed as faſt as the new Dolphin, or perhaps faſter. This ſhews what a claſs of ſhips thoſe new 20 guns

ſhips were, and how different from my favourite ſhip, the Old Dolphin who would have ſailed the new ſhip of that name out of ſight in a few hours. If our ſhip conſtructors of thoſe times were now living, how eaſy a thing it would be to convince them of their error, and their miſtaken ideas of ſhip building; and it might be wiſhed that the people of the preſent times would pay more attention to buſineſs of this kind, and not ſo blindly follow their own capricious whims and fancies, like thoſe that went before them, whoſe actions were full of error, as what has been ſaid will plainly prove.

I muſt here alſo further beg leave to obſerve, that during the ſeven years I ſailed in this favourite ſhip, the Old Dolphin, we never carried away a maſt or yard, though all that time in actual ſervice, and principally in War time.

Remarks and Obſervations between the Dolphin and the 20 gun ſhips that were built in 1740 and 1741.

There was a great number of 20 gun ſhips built in the year 1740 and 1741, which were conſtructed to carry 22 guns nine pounders, and 4 carriage guns three pounders, which they did, but were neither one thing nor the other, that is to ſay, they were neither fit for Men of War nor Merchant Ships; ſo improperly were they conſtructed, that any common Merchant Ship would ſail as well. I have been at ſea in company with ſeveral of them in the Dolphin, who could run them out of ſight in a few hours; thoſe ſhips were tubs to her; ſhe had a round bow, they were built with a ſquare beakhead, which was much againſt them in ſailing againſt a head ſea upon a wind; they might look at the enemies ſhips, or perhaps frighten them away, but they never could catch them by ſailing. The ſame ſurveyor remained in office when thoſe ſhips were built; had they been conſtructed from the plan of the Dolphin, what a ſet of uſeful ſhips they would have been to Government in clearing the ſeas of the enemies Privateers and ſmall Cruizers, which greatly annoyed our trade in that War, but ſuch are the weakneſſes and prejudices of men in power, that nothing rational can convince them of their error, though the error was even dangerous to the State, if not ſo, it might be diſadvantageous to the Public at large, as it really was.

I muſt

I muſt here beg leave to give a proof of the uſe of the Dolphin by her faſt ſailing; we were cruizing in the Bay of Biſcay, a ſingle ſhip, in the month of June, 1741, it was blowing pretty freſh, the wind WSW. we were upon a wind on the larboard tack, at 4 A. M. we ſaw a ſail in the wind's eye of us, at ſo great a diſtance that ſhe was hull down, or the foot of her courſes in the water, ſhe was ſtanding to the NW. as we were, we immediately gave chaſe, got up top gallant yards, and ſet the ſails on the ſingle reeft top-ſails, it blew very freſh in ſqualls, which obliged us to take in our top gallant-ſails ſeveral times, and as often as we handed the ſails we got down the top gallant yards, and did ſo ſeveral times in this chace; we were an exceeding well manned ſhip, as the Dolphin always was, we had occaſion to tack ſeveral times to get to windward in the wake of the chaſe, were ſure we could come up with her when we got in her wake, and we had her right a-head of us, the chace kept her wind, and carried all the ſail ſhe could; at 10 A. M. we got into her wake, by this time we perceived her to be a Cruizer and a ſhip of Force; cleared ſhip for action, at ½ paſt 11 the chace hoiſted Spaniſh colours, we ſhewed ours; at noon came up with her, fired but one gun at her, and ſhe ſtruck her colours, thus we came up with a faſt ſailing ſhip in eight hours, who, when we firſt ſaw her, was 4 or 5 leagues right in the wind's eye of us, a great proof of our ſhip's good ſailing, the chaſe proved to be a Spaniſh ſhip, a Privateer of 22 guns and 200 men, had been out but 6 days, had taken nothing. She had a tallowed bottom, was well fitted and found, and was an excellent ſailer. In the courſe of the year we took ſeveral other Privateers. This ſhews the uſe of a faſt ſailing ſhip, and had any of the new built 20 guns ſhips been where the Dolphin was, they could not have performed the ſervice the Dolphin did.

This ſhews what a great expence Government was put in building a great number of 20 gun ſhips; I believe not leſs than 30 ſail, to anſwer no end, but to deſtroy a great quantity of timber, and to bring a needleſs expence on the Nation, without anſwering any good end or purpoſe; and if I might be allowed to carry the ſame idea a little further, I

muſt beg leave to ſay, that I do not think matters were much mended in the late War, with reſpect to the improvement of ſhip building in the Navy in general, particularly the Line of Battle Ships. I will venture to ſay, it cannot with propriety be called an improvement in the conſtruction of ſhip's, whatever it may be in the increaſe of their numbers, which upon trial were found to be ſo improperly conſtructed, that they neither ſailed well, nor did they carry their lower deck ports high enough to open them, ſo as to fight their lower deck guns, even in moderate weather, nor could they ſtow the men or ſtores well, nor had any one good property; many of them were obliged to have their maſts and yards reduced, a ſeventy-four to a ſixty-four, and ſixty-four to a ſixty, and when all was done, were found to be very improper ſhips, and with reſpect to their not bearing their ſail, or carrying their lower deck ports well, may be eaſily accounted for by every ſeaman of judgment; more might be ſaid, but prudence forbids it, let thoſe who have more abilities, power, and knowledge of naval ſervice, ſay the reſt.

A Line of Battle Ship ſhould be large and capacious, ſhould be conſtructed to carry her ſail well, and to ſtow her men, ſtores, and proviſions well, and to carry her lower deck ports high enough, ſo as to be able to open them and to fight her lower deck guns in rough weather, when the enemies ſhips can do ſo. If ſhe can't do this, ſhe cannot anſwer the end of a Line of Battle Ship.

The more formidable a Line of Battle Ship appears, the more likely her appearance is to intimidate the enemy, which would have a very good effect; but what is commonly called a ſnug looking Line of Battle Ship, might produce the contrary effect; and this is but a natural conjecture.

A Line of Battle Ship ſhould carry her extreme breadth conſiderably above the line of floatation; when the ſhip has all in and ready for ſea, the ſhip's extreme breadth ſhould be gradually increaſing from the line of floatation, or water's edge, to nearly as high as the ſills of the lower deck ports, this would give the ſhip a capacity to bear her ſail in every

kind

kind of weather, and would contribute much to her ſailing faſter, and would make her carry her lower deck ports better.

I ſhall here beg leave to mention what I heard a great Admiral ſay, who ſerved with great reputation in the late War, and whom I knew ſpoke from experience. He ſaid it was a melancholy circumſtance to mention, that an Admiral commanding a ſquadron or a fleet of Engliſh Men of War, and happens to fall in with the enemies fleet, whom he thinks he is equal to in point of force, and wiſhes to give them battle, and orders a number of his beſt ſailing ſhips a-head to attack the van of the enemies fleet, who come up with, but cannot engage them, as they cannot open their lower deck ports, therefore it anſwers no end in coming up with the enemy if we cannot engage them. I hope this will prove what I have before ſaid, to be a true repreſentation of the defects or miſconſtruction of ſhips of that claſs.

I muſt here beg leave to mention once more, my favorite ſhip the Dolphin; I, like a man wrapped up in the idea of a favorite fine woman, cannot refrain from entering into the moſt laviſh praiſes of her, for which I hope the reader will pardon and excuſe me, as he would a lover ſetting forth the excellencies of his miſtreſs, and hope what I am going to relate will prove of ſervice to ſeamen in general, and will be of ſome inſtruction to them; as my intention is, that all I write or ſay, ſhould be of uſe to them, with reſpect to their profeſſional knowledge, what I am going to relate is a circumſtance worthy the reader's attention, viz.

In the latter end of the year 1740, we were ordered in my favorite ſhip the Dolphin, to Leith Road in Scotland; we ſailed from the Nore, and had proceeded as far on our way as Burlington Bay, near Flamborough Head, where we put into and anchored, the wind being contrary, and lay two days, in that time there was collected in this Bay a great number of ſhips all bound to the northward, to the amount of 70 ſail, which we counted, it being War time; they thought themſelves ſafe under the protection of a Man of War from the enemies Privateers, who had been pretty brief on that coaſt in the courſe

courſe of the ſummer. During the time we lay in this Bay, our Captain, who was a good ſeaman and officer, the winter being already ſet in, and the weather very ſevere, he prepared our ſhip for bad weather in the following manner, we got down the top gallant yards, ſtruck the top gallant maſt, and got them down upon deck, and got all the top hamper out of the tops, got the ſtudding ſail booms off the lower yards down upon deck, got up ſmall ſtumps inſtead of top gallant maſts, got in the ſpritſail yard upon deck, and ſtruck the mizen topmaſt; and made the ſhip as ſnug as poſſible; thus was the ſhip prepared for a ſtorm, which was very providentially done, when the reader comes to hear what follows.

On the laſt day of October, 1740, the wind came round againſt the Sun from the N and NNW, where it had been during the time we lay in this Bay, to WNW, W, WSW and to SW, with drizzling rain, but moderate weather (a ſure prognoſtick of bad weather). About 8 o'clock in the evening we weighed anchor, and ſailed out of Burlington Bay, as did moſt of the ſhips that were in the Bay, and ſteered our courſe to the northward along ſhore, and though it was pretty moderate weather all night, with a conſtant drizzling rain, we were under double reeft topſails, foreſails, and ſtayſails, yet it was not judged proper to let out any of the reefs of the topſail, ſo cautious were we of bad weather. Though the wind was large, we continued an eaſy ſail all night, being apprehenſive of a change of wind and bad weather. About 8 o'clock in the morning we were off Sunderland, diſtance between 3 and 4 leagues, the wind ſuddenly flew to the northward, and blew freſh, which took us a-back; we trimmed our ſails and ſtood in ſhore towards Sunderland, the wind flying to the northward, the thing we were fearful of, and apprehended all night, when we were about 3 or 4 miles from the ſhore, the pilot judged it proper to tack the ſhip, and ſtand off ſhore to the eaſtward; this was about 9 AM. was then under our courſes and double reeft topſails, the ſhip was put in ſtays, and as the ſhip came to, the wind veered, and came round from the north to the NE. and ENE, but notwithſtanding the wind veering

ſo

ſo faſt, the ſhip ſtayed, which was a miracle; juſt as the wind was a-head, and we hauled mainſail, that inſtant came on a moſt tremendous ſtorm of wind at EbN and eaſt, which was right on ſhore, with a heavy fall of ſnow, which gave the ſhip ſo great ſternway, that I thought ſhe would have gone down ſtern foremoſt, however the ſhip paid off the right way, was obliged to let fly the topſail ſheets, and take them in as well as we could, and was alſo obliged to haul up the foreſail, ſo great was the ſtorm, and ſo piercing cold, that men could hardly exiſt in it; we got our topſails handed, by getting yard ropes round the ſail, or hauling them up that way, for the ſail being wet and ſo frozen that the men had no power on them with their hands, the main tack was not on board by a great deal, the clew of the ſail was 6 feet above the gunwale, and the main ſheet was not hauled aft as it ought to have been. The foot of the ſail was 5 or 6 feet from the main ſhrouds, the ſail being ſo badly ſet cauſed it to blow and ſag againſt the main ſtay, which ſoon chafed a great hole in the main ſail, which no human being could prevent; got a preventer ſtopper on the weather clew of the main ſail, and got the lee main tack aft, to ſuccour the main ſheet, and ſteered the ſhip under the mainſail, who at this time flew through the water at a great rate. * Though the ſhip was flying through the water at a very great rate, under a main ſail only, and badly ſet, it was thought the ſhip could not clear the ſhore, as we were ſo near it, and at this time we could not ſee the ſhip's length, the fall of ſnow was ſo great, and upon a conſultation of the Officers and Pilot, they were unanimous in opinion that the ſhip could not clear the ſhore under a mainſail, and therefore

1ſt Nov. 1740, a tremendous ſtorm.

* The unfortunate ſhips that were in company with us, in number about 60 or 70 ſail in all, bearing ſo near the ſhore when the ſtorm came on at EbN and Eaſt, at 9 o'clock on the 1ſt of November, 1740, a fatal day to hunderds of poor ſouls. Theſe being all light ſhips, went a-ſhore upon their broad ſide, with their ſails flying over their maſt heads, the men, to ſave themſelves from being waſhed overboard or drowned, all got up in the tops and on the rigging, but alas! ſo pierceing was the cold, that they were all froze to death, as they ſtood or clung to the rigging, and not a ſingle ſhip that was in company eſcaped ſhip-wreck.

therefore it was agreed to try if the ſhip would bear the foreſail; as it was impoſſible to reef it, we ſet the foreſail, but alas! the ſhip could not bear it for two minutes, ſhe would have run herſelf under water, we was obliged to haul up the foreſail and lower down the foreyard, to eaſe the ſhip, or ſhe would have foundered, ſo that look which way we would, death appeared inevitably certain; if we carried ſail, we muſt be drowned at ſea, and if we did not carry ſail we muſt meet our fate by the ſhip's being drove a ſhore. A diſmal proſpect. The ſhort time the foreſail was ſet, the beſt bower anchor was waſhed away from the bow; that being the lee-ſide, the cables came between decks, was obliged to take off the bucklers, and cut the cable to let the anchor go clear of the ſhip; in doing this, there was ſo much water came into the ſhip at the hawſeholes, which all ſettled to leeward, inſomuch that it was feared the ſhip would not bear the main ſail; the lee gunwale fore and aft, was conſtantly under water; it was judged the ſhip muſt be immediately relieved or founder, the 'twixt decks were full of water, the water was over the caſk in the hold, and over the cables that were coiled there, and a ſick Quarter-maſter, who lay in his hammock in the cable-tier, was obliged to be hauled up by a rope to prevent his being drowned; without heſitation, it became abſolutely neceſſary to throw the lee-guns overboard, which was as expeditiouſly done, as the nature of things would admit, as they were many feet under water, and the carriages floated over the gunwale and drove a-ſhore in the neighbourhood of Scarborough; the ſhips name being on the carriages, gave riſe to the report that the ſhip muſt have been loſt off that place. The beſt bower anchor, which was on the lee-ſide, and all the lee-guns and carriages which were thrown over board by great dexterity and reſolution, made the ſhip bear her ſails in this weather much better, though ſhe ſtill continued the lee gunwale under water, and the waters were up to the lee commons of the hatchways, fore and aft, and all the pumps conſtantly going, and could but juſt keep water from gaining on the pumps; the wind roared like thunder, the ſea mountains high, the fall of ſnow ſo great, that you could

could not ſee the breadth of the ſhip, and the weather ſo piercing cold, that the men could not ſtand at the helm more than a quarter of an hour. In this dreadful ſituation, we ſailed, or rather dragged along the Yorkſhire coaſt, expecting to have gone a-ſhore about Scarborough or Whitby, and never expected that we could have cleared or weathered Flamborough Head, and every time the ſea ſtruck the ſhip with any great force, which it often did, we imagined the ſhip ſtruck upon the ſhore. In this painful anxiety, we run along the coaſt till it became dark, when we ſuppoſed ourſelves as far to the ſouthward as Flamborough Head; the wind and weather ſtill the ſame; by this our anxiety was not leſſened, or in the leaſt abated, for though we had cleared a part of the coaſt, we little expected to have done, our fear and apprehenſions were ſtill great, the Lemon and Oar Sands,# with ſeveral other dangers, and alſo Yarmouth Sands, were what we feared we ſhould not weather, and therefore was in dread of the conſequences; but it pleaſed God, we weathered them all about midnight, and ſuppoſed ourſelves as far to the ſouthward as Yarmouth Sands; about four o'clock on Monday morning the ſtorm began to abate a little, at ſix o'clock the ſtorm was much abated, at eight the ſtorm was quite abated, it only then blowing ſtrong gales with heazy weather, ſaw a Dutch Pilot Boat, and ſpoke her, who informed us they came out of the Texel that morning at five o'clock, and that it bore NE of us diſtance about 3 leagues; at this account we were very much ſurprized, we did not think we could have been near the coaſt of Holland; the wind at this time about ENE ſtrong gales, bore away for Orford Neſs, and made it; run up Swin, got the buoy of the Nore that evening, with hearts filled with gratitude to God for his gracious preſervation and remarkable deliverance of us; when the ſhip was put before the wind, ſhe heeled a ſtrake and an half to ſtarboard, though ſhe had no guns on that ſide, and the beſt bower anchor was gone from that bow. Thus did our favorite ſhip perform wonders, and by God's bleſſing ſaved all our lives, we being the only ſhip that eſcaped ſhipwreck, of all the fleet that were off Sunderland when the ſtorm came on.

The narrow escape of H R H the Duke of York, then Lord High Admr. was on board the Glotter, yacht. Captn. Sir John Barrie: going from the Humber to the Thames. May 5th 1682. & struck about 8 PM so hard as to fill & go to the bottom in 18 Fathm. & out of 330 souls only 130 were saved. the Sand has only 18 feet water on it & is very small. so that the Glotter rebounded from it & sank directly. there were three more Yachts with her & near but so quick was the evil that only 3 or 4 Guns were fired. Yarmouth is NW 12 Leag.

B. W. Page has a painting of this evil - 1785

As I have ſaid much about taking in ſails, when the ſhip was upon a wind in ſtormy weather, I ſhall now ſay ſomething of the manner of taking in ſails when the ſhip is ſailing large, or before the wind.

A Caution with reſpect to carrying ſail, and a gale haſtily coming on.

When a ſhip is ſailing in the wide Ocean, and has room enough to range in, and being on her voyage, the judicious ſeaman being very intent on the making his voyage as expedicious as poſſible, will of courſe carry all the ſail he can with prudence, but it ſometimes happens, and has often been found, that he has carried his ſail too long, and the beſt ſeamen have been puzzled how to take in the ſails when the gale has been haſtily increaſing, and a great ſea riſing with the wind. As this is a ſituation I have often been in, I ſhall give my opinion what is beſt to be done upon this occaſion.

A ſhip ſailing large before the wind in a gale of wind, the topſails to be reefed.

I will ſuppoſe a ſhip at ſea, and ſailing large, or before the wind, and the wind comes on to blow a briſk gale, which has obliged them to haul down the ſtudding ſails, and take in their top gallant ſails, the ſhip being now under what is called a plain ſail, viz. under her three topſails and courſes, or if right before the wind, under her topſails and fore ſail, the mizen topſail lowered down, the wind is encreaſing, it comes on to blow ſo ſtrong that it is neceſſary to reef the topſails; How is this to be done? the ſhip is going large, or before the wind, and the wind is increaſed to what we call a gale of wind, How are we to reef the topſails? they cannot be reefed in the ſame way that they are reefed when the ſhip is upon a wind, the queſtion is, How are they to be reeft? I anſwer in the following manner.

How to reef the main topſail in a gale of wind, when ſailing large, or before the wind.

The firſt conſideration is, how to make the ſhip as eaſy as poſſible, and to make her ſteer well by taking in the after ſail, clew up the mizen topſail, cloſe reef and hand or furl it. I would then bunt the mainſail, lower the topſails down upon the cap; if the wind was more inclined upon one quarter than the other, I would call that the weather quarter; in order to reef the main topſail, it may be neceſſary to act in the following manner. I will ſuppoſe the wind to be nearly aft, or a little upon either quarter, I will ſuppoſe it to be the ſtarboard quarter; in that caſe I would haul in the ſtarboard brace of the main and main topſail yard, and have all my people ready to clew up the main topſail,

in

in order to reef it, the wind being a little on the ſtarboard quarter, I would endeavour to keep it ſo by the ſteerage of the ſhip, and trim the head ſails accordingly, by which means the ſtarboard yard arm of the main topſail yard, will become like the weather yard arm; in that caſe, I would haul up the ſtarboard clewline of the main topſail, and buntline, and ſpillingline, and when that was done, I would haul up the larboard clewline, with the buntline and ſpillingline, the ſtarboard brace of the main topſail yard is hauled in as much as the ſhrouds will admit it to be, I would order the ſteerage of the ſhip to be ſo, as the ſtarboard yard arm to point as near as poſſible to the wind; in that caſe, the ſail will lye pretty quiet, then you may turn the men up to take in the reefs, one after the other, and if it is thought proper, when the ſail is cloſe reefed, they may furl the ſail or ſet it again, and haul home the larboard ſheet firſt, and then the ſtarboard ſheet, and ſet the cloſe reeft main topſail.

How to reef the fore topſail in a gale of wind, when the ſhip is ſailing large, or before the wind.

The next conſideration is, how to reef the fore topſail. In order to do that, I would juſt act in the ſame manner that I had done with the main topſail, by hauling in the ſtarboard brace, and clew up the ſail, take in the reefs and ſet the ſail again in the ſame manner I had done the main topſail, and would now keep the ſhip her proper courſe; for during the time the topſails were clewing up and reefing, the ſhip had been kept to windward of her courſe, to make it convenient to clew up the topſails and reef them, which could not be done but by acting in the manner before-mentioned, for the reaſons I ſhall hereafter give, to convince unexperienced ſeamen of their miſtaken idea of the manner of taking in ſails when a ſhip is ſailing large, or before the wind, in ſtormy weather.

Injudicious ſeamen are apt to cavil for their want of experience.

I am aware of the vanity, pride and oſtentation of a ſort of men, who are ſo full of ſelf conceit, that they vainly imagine that they are in poſſeſſion of all the uſeful knowledge of their profeſſion; I have known this to have been the caſe with this ſort of men, when few but themſelves thought as they did. Men of this ſort may be inclined to cavil and ſay, as the ſhip is going large, or nearly before the wind, Why could not

the topſails be reefed or handed without altering the ſhip's courſe, and bringing the wind on the quarter, to perform that ſervice?

A reaſon given for acting as the Author has mentioned.

In the firſt place, I will not ſuppoſe a queſtion of this kind could be put by a profeſſional man, without greatly expoſing his judgment; if it was put, I would anſwer, by ſaying, try the expedient. Could your men go upon the yard, which they will not be able to do, they could not hold themſelves faſt, and their ſtrength with regard to the management of the ſails, would be no more than as many rats; the men would be knocked or beat off the yard, by the violence of the ſail beating about, the mens lives would be in danger, and the ſail would be ſplit and beat to pieces, and blown away from the yard, as I have ſeen many ſails do in ſuch caſes, for the want of prudent management, and poor men's lives have been loſt through the ignorance of their Officers, which muſt be painful to every man of common humanity to ſee.

To make a ſhip ſnug in a ſtorm, ſailing large, or before the wind.

I will now take the ſhip up where I left her, under cloſe reeft top-ſail and fore-ſail, ſailing large, or nearly before the wind, in ſtormy weather; the ſhip has only her cloſe reeft main and fore top-ſail and fore-ſail ſet, ſhe is flying away in a hard gale of wind and a high ſea, the mainſail as before-mentioned, was bunted, I would now furl it and get down the top gallant yards, and ſtrike the top gallant maſts, and get them down upon deck, and would get preventer braces on the lower yards; and as I have ſuppoſed the ſhip to be in the Ocean, and to have ſea room enough, and the gale was increaſing, I would ſtrike the mizen top-maſt, and lower down the mizen yard, which will make the ſhip ſteer the better; great care and attention ſhould now be taken in the ſteerage of the ſhip, not only to keep her her proper courſe, but alſo to conn the ſhip before the ſea, and care ſhould alſo be taken to

Care to be taken in ſteering a ſhip in a ſtorm, when ſhe is ſailing large, or before the wind.

have ſteering tackles put to the tiller in the gun room, and good and judicious ſeamen ſhould be placed to the ſaid ſteering tackles, with a compaſs in readineſs to ſteer the ſhip. If any misfortunes ſhould happen to the tiller rope, by its breaking, &c. And when the ſhip takes a great yaw on either ſide of her courſe, that requires the tiller to be put hard to port, or hard to ſtarboard, then the men at the ſteering tackles are to haul the tackle on that ſide very tight, to ſupport the tiller rope, as there is a great ſtrain on it at that time; when a ſhip is

ſcudding

ſcudding in a ſtorm and a great ſea, all the precaution imaginable ſhould be taken in the ſteerage of the ſhip.

The ſhip is ſcudding in a hard gale, and a very great ſea, as before-mentioned, and is flying through the ſea at a great rate, and it now blows ſo hard the ſhip cannot bear the ſail ſhe has ſet upon her, it is neceſſary to take in the main top-ſail, and it requires experience, care, and attention, to take in that ſail, ſo as to ſave the ſail from being ſplit and blown away; you muſt have recourſe to the ſame method of acting as when you clewed the ſail up to reef it, but as it now blows a violent ſtorm, with a monſtrous high ſea, more judicious care is neceſſary, you muſt have all things in readineſs to perform this ſervice; you muſt bring the wind by the ſteerage of the ſhip, to be a little upon one quarter or the other; we will ſuppoſe it will be moſt convenient to bring it to be on the ſtarboard quarter, you will in that caſe, haul in as much of the ſtarboard brace of the main top-ſail yard as poſſible, and haul up the ſtarboard clewline, buntline, and ſpillingline, and to have a rope on each ſide from the deck, paſſed over the main top-ſail yard, put down afore the ſail, and paſſed under the foot of the ſail, and brought up abaft the ſail, and made faſt to the yard, as far out as the clewline block, or the quarter of the yard; this rope well manned and hauled up, will keep the ſail very quiet; this done, then haul up the larboard clewline, buntline, ſpillingline, and yard rope, the ſame as was done on the ſtarboard yard arm, and haul in the ſtarboard brace as much as poſſible, and as the wind is to be kept on the ſtarboard quarter by the ſteerage of the ſhip, if you can bring the wind to blow nearly along the yard, the ſail will be pretty quiet, the people are ſuppoſed to be ready in the top, then man the yards and furl the ſail; when that is done, keep the ſhip in her courſes as before, the ſhip will then be ſcudding under a fore-ſail, and cloſe reeft fore top-ſail.

To take in the main top-ſail in a ſtorm, when the ſhip is ſailing large, or before the wind.

The ſhip ſcudding under a fore-ſail, and cloſe reeft fore top-ſail.

The ſtorm is increaſed to a violent gale of wind, with a great and mountainous ſea, it is now become dangerous to keep the ſhip any other way than right before the wind and ſea, and it becomes the great care and utmoſt caution of the moſt experienced ſeamen to conn the ſhip right before

To have a choice helmſman to ſteer the ſhip in a ſtorm.

before the wind and ſea, the moſt choice helmſman in the ſhip ſhould be put to the helm to ſteer her, for the conſequence of the ſhip's broaching too in ſuch a violent ſtorm, might prove fatal to her.

The fore top-ſail yard to be lowered down on the cap, and laſhed there.

The ſtorm is increaſed to ſuch a degree that it is judged proper to take in ſome of the ſails the ſhip has ſet upon her, though ſhe has only the fore-ſail and cloſe reeft fore top-ſail ſet, and the fore top-ſail yard has been already lowered down upon the cap, and the yard laſhed down to the cap, which ſhould always be done when it comes to blow a ſtorm.

Conſiderations on a great ſea and a ſtorm.

The ſhip has but two ſails ſet, the fore-ſail and fore top-ſail. It now lies with the judicious ſeaman, who, at this time is loaded with care and anxiety, which of thoſe two ſails it would be beſt or moſt proper to be taken in, and how they are to be taken in, ſo as to ſave the ſail from being ſplit and blown away; I beg leave, in the ſhip's ſituation, to recommend two things to his conſideration; with reſpect to taking in one of the two ſails that is ſet upon the ſhip at this time. He is to conſider there is a mountainous ſea, and when the ſhip is down in the great hollow between two of thoſe mountainous ſeas, the foreſail is in ſome reſpect becalmed, though but for a moment; the ſhip then looſes ſome of her way ſhe had through the ſea, this leaves her expoſed to the high towering ſeas that are following her, which may ſtrike her ſtern and broach her too; the conſequence may be fatal. This is what is called being pooped, or the ſhip is pooped; this conſideration is what I think would make the judicious and experienced ſeaman determine which of the two ſails muſt or ſhould be taken in, I therefore recommend to him to leave the loftieſt ſail for the ſhip to ſcud under, (the fore top-ſail) as it will have the moſt command of the ſhip, and prepare to haul up the fore-ſail in the following manner, in order to eaſe the ſhip, and make her ſcud with more ſafety.

Remarks on a ſhip ſcudding in a ſtorm.

It is neceſſary to take in the fore-ſail.

How to take in the fore-ſail in a ſtorm, when the ſhip is ſcudding before the wind.

To haul up the fore-ſail, it is ſuppoſed the clew garnet blocks ſhould be laſhed upon the yard, about what is called the quarter of the yard, to plumb a little without the gunnel, I would have two ropes on each yard arm, one to be near the clew garnet block, and the other to be between

between the clew garnet and the jeer blocks, paſs thoſe ropes over the yard down before the ſail, take them under the foot of the ſail, and take them up abaft the ſail, and make them faſt to the yard, and let them lead through leading blocks on the forecaſtle, down upon the main deck, and let thoſe ropes be well manned; when all is ready, you will have all your people placed to haul up the fore-ſail, and to wait a fair opportunity for doing it, when the ſhip is down in the hollow between two high ſeas, it is then in ſome meaſure becalmed, take that opportunity to haul up the fore-ſail, man both clew garnets, buntlines, leechlines, and yard rope, eaſe off the fore-ſheets, and haul up the ſail as expeditiouſly as poſſible, which may be done with great ſafety without injuring the ſail, as I have often experienced.

The ſhip ſcudding under a cloſe reeft fore top-ſail on the cap.

The ſhip is now ſcudding under a cloſe reeft fore top-ſail on the cap, and ſteers well and makes as good weather as can be expected in ſuch a ſtorm, the jib boom ſhould be rigged in, and the ſprit-ſail yard got in upon deck and the ſhip will be very ſnug, the principal thing to be minded is the ſteerage of the ſhip, and to be careful to conn her well before the wind and ſea, till the ſtorm abates, as you are ſuppoſed to have ſea room enough, but in this caſe it would be right to have your ſtorm mizen prepared for ſetting, in caſe your ſhip ſhould by any accident broach too, you may then lay her too under a ſtorm mizen. For a deſcription of the Storm Mizen. See page 142.

The ſtorm mizen to be got ready in caſe the ſhip ſhould broach too.

The dreadful condition of a ſhip in a violent ſtorm, brings to my recollection the excellent deſcription mentioned in Holy Writ *. Were ſeafaring men but ſtruck with the beautiful deſcription of the Pſalmiſt, of their

* Pſalm CVII. Verſe 23, 24, 25, 26, &c.
" They that go down to the ſea in ſhips: and occupy their buſineſs in great waters;
" Theſe men ſee the works of the Lord: and his wonders in the deep.
" For at his word the ſtormy wind ariſeth: which lifteth up the waves thereof.
" They are carried up to the heaven, and down again to the deep: their ſoul melteth away
" becauſe of the trouble.
" They reel to and fro, and ſtagger like a drunken man: and are at their wits end.
" So when they cry unto the Lord in their trouble: he delivereth them out of their
" diſtreſs."

their ſituation in a ſhip, when ſhe is in a ſtorm, I ſhould imagine it would bring them to a more ſerious thought, and that it would make them reflect how much their dependence is, or ſhould be, on the goodneſs of Providence, and that there are no profeſſional men in the World ſo much dependant on Providence as they are. This one ſerious reflection, ſhould make them good men, and good ſeamen, when they ſee ſo much of the Wonders of Providence, eſpecially if they will look back and ſee how many miraculous dangers, God has delivered them from, in the courſe of their long ſervice.

There are two things I am now going to mention, which frequently happen to a ſhip when ſailing in the Ocean, and which may be equally dangerous to the ſhip, and is what the experienced ſeaman ſhould be cautioned againſt, and be prepared how to act, when either of thoſe two circumſtances ſhall, or may happen.

A calm quickly ſucceeding a violent ſtorm.

The firſt circumſtance is, when a ſhip is at ſea, and ſailing in the Ocean in ſtormy weather, ſuch as we have been lately ſpeaking of, and it falls ſuddenly calm, which has often been the caſe. This circumſtance makes the ſituation of the ſhip truly unpleaſant and dangerous, a ſudden calm quickly ſucceeding a violent ſtorm, which has raiſed ſuch a mountainous ſea, that it was hardly poſſible for a ſhip to live in it, or to be governed in ſuch a violent tempeſt, and its falling ſuddenly calm, diſtreſſes the ſeaman more than he was in the ſtorm, for in the ſtorm he had ſome management of his ſhip, but in the calm he has none, and the ſea is ſo great that it occaſions the ſhip to roll and labour to ſuch a degree, that they are in great danger of loſing their maſts, and having great damage done to the ſhip by the ſea, eſpecially if the ſhip's ſtern ſhould be accidentally turned to the ſea. I have known the ſea in a calm to poop a ſhip, ſtave in her ſtern, and do her much damage.

The queſtion is, what can be done to relieve the ſeaman from this diſtreſſed ſituation his ſhip is in, I anſwer, it is hard to ſay what can be done, I can only ſay what I have done, the ſeveral times in my life I have been in ſuch a ſituation, expecting every moment the ſhip would

roll

roll away her maſts, and otherwiſe ſtrain her hull by her exceſſive rolling and labouring in the ſea; all I can conceive, can be done, and what I have always done in ſuch an unpleaſant ſituation, is to looſe the cloſe reefed topſails, and haul home the ſheets and brace the yards up contrary ways, that is, if you haul in the larbord braces of the main and main topſails yard, you will haul in the ſtarboard braces of the fore and fore topſail yards, which will in ſome meaſure check the exceſſive rolling of the ſhip whilſt it is calm, and as ſoon as there comes wind, you will have it in your power to keep the ſhip that way that you find ſhe will be moſt eaſy in the ſea, which you ſhould endeavour to do, until the ſea falls, and not to be too haſty in making much ſail, until the ſea is fallen, as it may be of ill conſequence and endanger your maſts.

A method in ſome meaſure to prevent a ſhip's exceſſive rolling in a calm.

The ſecond thing I am going to mention is, when a ſhip is at ſea in the Ocean, and in a ſtorm, and a ſudden change of wind ſhould happen, which it ſometimes does in a moment's time, ſometimes from the oppoſite point, where the late ſtorm blew from, or otherways, and ſometimes, (particularly in the Weſtern Ocean); in a hard gale with much rain, I have experienced the wind to ſhift from ſouth or SW. in an inſtant of time, without the leaſt ceſſation of the ſtorm, to NW or N, and blow much harder, than it did from the ſouth or SW, which is a dangerous circumſtance, as it raiſes a monſtrous great and confuſed ſea, ready to ſwallow a ſhip up, and runs in heaps, and breaks as if it were in foul ground and ſhallow water.

A ſudden change of wind in a ſtorm dangerous.

This is alſo a time of trial for the ſeaman's experience and judgment. I do confeſs, I do not know any ſituation a ſhip can be in, in a ſtorm, that requires more of the judicious ſeaman's experience, care and attention, than the preſent; it blows a violent ſtorm, the ſea is all in a foam, is turbulent and diſturbed, the ſky overcaſt, with towering black clowds paſſing away as quick as lightning, the whole ſcene before your eyes is horrid and frightful to behold, the ſea that was raiſed by the ſtorm, that blew from the ſouth or SW, comes foaming with great rage and fury againſt the ſea, raiſed by the north or NW winds, theſe

A deſcription of the dangerous conſequences of a ſudden change of wind in a ſtorm.

ſeas meet each other with ſuch violence, that they break and tower as high as a ſhip's maſt head, not only frightful to behold, but exceedingly dangerous to the ſhip, often ſtriking her with great force on the bow quarter, head and ſtern, or on both ſides at the ſame time, and ſhipping ſo much water, that whole green ſeas come into the ſhip ready to waſh every thing over board, and the ſhip rolls and labours ſo much that there is danger of looſing the maſts, and the ſhip is much ſtrained and makes much water, and is in danger of ſpringing a leak, it now becomes a ſerious matter how to conduct the ſhip to eſcape the threatened danger by the ſtorm.

As this is a ſituation I have often been in, both in Men of War and Merchant Ships, and the many times I have croſſed the Weſtern Ocean, particularly the eight years that I commanded a Merchant Ship belonging to London, in the Jamaica trade, I have often been in the ſituation I have juſt mentioned, in a deep loaded Weſt Indiaman, I ſhall with pleaſure inform my brother ſeamen how I acted under thoſe diſagreable circumſtances, I have the ſatisfaction to ſay, my ſhip never ſuffered any material hurt, or damage in ſuch ſtorms as I have lately mentioned, whilſt other ſhips that have been in the ſame ſtorm, have been diſmaſted, their hulls much damaged, have ſprung a leak, have had a great quantity of their ſugar waſhed out, and every thing waſhed over board that was upon deck, &c. and their ſhips have been in the greateſt diſtreſs imaginable.

The Author's ſhip did not ſuffer in any of thoſe ſtorms, though others did.

This leads me to ſay, that there is ſomething expected, and may be found in an experienced, judicious and good ſeaman, that is not to be found amongſt the pretenders to that noble and great character, *A good Seaman*, and ſure I am, that there are more diſaſters happen to ſhips in general, through miſconduct and ignorance, than by ſtreſs of weather.

More diſaſters happen to ſhips through miſconduct, than by ſtreſs of weather.

I ſhall now reſume the thread of my diſcourſe, and ſuppoſe a ſhip in the Ocean, in a violent ſtorm, and the wind has ſuddenly ſhifted from South or SW to North or NW, and the ſea, as before deſcribed, all in a foam; the ſea that was raiſed by the ſtorm that blew from the ſouth or SW winds, comes foaming with great rage againſt the

ſea,

ſea, raiſed by the N or NW winds, thoſe ſeas meet each other with ſo great violence that they break, and tower as high as a ſhip's maſt head, not only frightful to behold, but exceedingly dangerous to the ſhip, her exceſſive rolling and labouring in the ſea makes her in danger of looſing her maſts; it now becomes a ſerious matter how to conduct the ſhip to eſcape the treathened danger by the ſtorm.

The Author's method of conducting a ſhip in a violent ſtorm, and great ſea.

I ſhall now beg leave to inform the judicious ſeaman, the method I purſued in ſuch caſes, and under ſuch circumſtances as I have juſt before mentioned; my method was, to pay no regard to the courſe I could wiſh to ſteer, but to ſteer ſuch a courſe as my ſhip would go the eaſieſt through the tempeſtuous ſea, with an eaſy ſail, taking particular care to keep the ſhip that way that ſhe would roll and labour leaſt, of courſe the ſhip would then go the eaſieſt and ſmootheſt through the ſea until the ſtorm abated; there are two things that ſhould be equally guarded againſt and particular attention paid to them, which is, firſt, be cautious not to ſet too much ſail upon your ſhip, if you do, you will be in danger of carrying away your maſts, ſtraining your ſhip, and doing her great damage; the ſecond caution is, that you will take care to keep the ſhip with proper way through the ſea, that there may be no danger of the ſeas ſtriking the ſhip's ſtern, which might prove fatal, or of very dangerous conſequence, and though by this way of acting you may be obliged to run a little out of your way during the continuance of the ſtorm, you muſt not mind that, it would be a moſt unpleaſrnt and dangerous circumſtance for a ſhip to lye too in ſuch a ſtorm, as we have before mentioned. A ſhip to be obliged to lye too in ſuch a ſtorm, with ſuch a ſea, would be in great danger indeed.

Two Cautions to be obſerved and particularly attended to.

Dangerous for a ſhip to lye too in ſuch a ſtorm.

And when the ſtorm abates and the ſea is fallen, and the weather is become moderate, and you think you can venture to keep the ſhip the courſe you wiſh to ſteer to proceed on your voyage, even then, be not too eager, but cautious not to make too much ſail, particularly if you head the ſea. I have known men too axious to proceed on their voyage, have unwarily after a ſtorm ſet a preſs of ſail on their ſhip, and have

A caution to be obſerved when the ſtorm abates and the ſea is fallen, not to be too eager in making much ſail on the ſhip.

carried away all their maſts, which they had prudence enough to preſerve in a ſtorm, and have loſt them in moderate weather, which occaſioned a great loſs of time and expence and ruined their voyage, with great reproach to the commander.

To alter the courſe to make the ſhip go more eaſy through the ſea.

It ſhould be the judicious ſeaman's care at all times when the ſhip is at ſea in the Ocean, where he has ſea room enough to ſteer that courſe the ſhip will go the eaſieſt through the ſea; as for inſtance, I ſuppoſe your courſe to be ENE. and you find your ſhip by ſteering that courſe to roll and labour very much, ſo as to ſtrain the ſhip's hull, maſts, and rigging, at an apparent riſque of ſome material damage being done, or may happen to the ſhip's hull, maſts or rigging. I aſk, would a reaſonable man, or ſeaman of experience, ſuffer a ſhip to ſail in this uneaſy unpleaſant manner, without contriving to make her more eaſy, and to go more pleaſantly through the ſea, which he may do, by altering the courſe from ENE. the courſe he was ſteering, to EbN. or E. he will find the ſhip to go more eaſy through the ſea, or if it were judged the ſhip would be more eaſy by keeping or ſteering her NEbE. or NE. I would keep her that courſe, until the ſea was fallen for 8, 10, or 12 hours, or for 24 hours. If I thought it neceſſary for the eaſe or conveniency of the ſhip; or if I thought the keeping the ſhip the whole 24 hours on the ſame courſe, would materially alter the courſe, and more than I intended, and I had no other reaſon for altering the courſe, but to keep the ſhip eaſy, and I wiſh to make my courſe ENE. as near as I could; in that caſe, I would ſteer E 12 hours, and NE 12 hours, which would make the courſe nearly ENE. for the 24 hours; all this may be done to keep the ſhip eaſy, and prevent accidents by the ſhip's rolling and labouring exceſſively, by which ſhe may do damage to her hull, maſts, and rigging,

Obſervations and remarks on altering the courſe to make the ſhip go eaſy through the ſea.

Remarks on altering the courſe twice in 24 hours to keep the ſhip eaſy.

I muſt here beg leave to mention, that my wiſh, could I convey it to our ſeamen, is to turn their thoughts to the laſt paragraph, and would aſk them if they at any time, when ſailing in the Ocean, ever turned their thoughts how to keep their ſhips as eaſy as poſſible, with reſpect

to

to ſteering a courſe that would keep them more eaſy than the courſe they were then ſteering. I think I hear them anſwer no, for in my long ſervice I ſcarcely ever ſaw any attention paid to it. I have ſeen a ſquardron or fleet of ſhips of War, at ſea in the Ocean, ſteering their courſe when the ſhip's have rolled and laboured very much, when their maſts have been in danger, and the ſhip's hulls very much ſtrained, as heavy Line of Battle Ships muſt do when they roll deep, which might have been prevented by altering the courſe a point or two either way, as mentioned in the laſt paragraph.

A hint to ſeamen.

There is one remark and obſervation I think is proper for me to make in this place, which is, when a ſhip is ſailing in the wide Ocean, in blowing or ſtormy weather, and the wind is directly contrary to the ſhip. In my opinion, it is the heigth of abſurdity and folly to carry much ſail upon the ſhip at ſuch times, as it can anſwer no end or purpoſe, but to ſtrain the ſhip's hull, maſts and rigging, and to wear her ſails to pieces; it is the beſt way to make an eaſy ſnug ſail until the wind and weather changes.

When the wind is directly contrary and it is blowing or ſtormy weather, it is an abſurdity to carry much ſail upon the ſhip.

I muſt here beg leave to make one obſervation more, that ſeamen in general practiſe, which is as follows, I cannot forbear taking notice of a practiſe ſo inconſiſtent and abſurd, that one would really wonder (how it ſhould have become ſo common in uſe) eſpecially by thoſe whom from their long experience one might naturally expect to have known better, were there not too many examples thereof, that is, navigator's keeping their ſhip when in the wide Ocean ſo cloſe to the wind, with their ſails as ſharp trimmed as they can make them, whereby they will not go above three or four knots, whereas by keeping the ſhip a point farther from the wind, ſhe would make leſs lee-way, and almoſt double her diſtance; I would particularly recommend this method in paſſing the Trade Winds on either ſide of the Line, in order to get the ſooner into the weſterly winds way, which they will meet with in about 30 degrees of latitude on either ſide of the Line. I am purſurded this method of acting would ſhorten foreign voyages very conſiderably, and muſt therefore be approved of by every ſeamen of judgment.

It is the height of abſurdity to keep a ſhip cloſe to the wind when in the Ocean, or ſailing acroſs trade winds, &c.

I muſt

I muſt here beg leave to make ſome remarks and obſervations on the different conduct of different ſeamen, all of whom claim merit, but all have not merit alike; ſome have much, ſome have but little, and the greateſt misfortune is, that he that has the leaſt generally claims the moſt, which is the reaſon ſo many misfortunes happen at ſea as do. The poor ſeamen are to be pitied who fall under ſuch injudicious mens care; ſomething ſimilar to this I am about to relate.

An inſtance of the different ſailing of two ſhips, one ſailing much better than the other, and in 23 days ſailing the heavy ſailing ſhip was as far on her paſſage as the other.

I ſailed from Jamaica the 8th Jan. 1752, in company with a ſhip belonging to Briſtol, ſhe was bound to that port, my ſhip belonged to London, and I was bound to that port; this was a very unpleaſant time of the year to ſail for England, as a winter's paſſage at this time is well known to be a rough one, the commander of the Briſtol ſhip and myſelf had agreed to keep company together through the Windward Paſſage, which we did, but his ſhip ſailing much better than my ſhip did, ſhe would ſail as much diſtance in four hours as my ſhip would in ſix, I therefore ſpoke him, and ſaid as his ſhip ſailed ſo much faſter than mine, I wiſhed not to detain him, and deſired he would make the beſt of his way, which he accordingly did, and in that day's run, from being within hail in the morning, he ran ſo great a diſtance a-head of me, that his courſes were not to be ſeen at ſun ſet. This day we got through the Windward Paſſage, next day I got down top gallant yards and maſts upon deck, and got down the croſs jack and mizen topſail yard and ſtruck the mizen topmaſt, and got it down upon deck, got in the ſpritſail yard on deck, and got the ſtudding ſail booms off the yards, and made the ſhip as ſnug as poſſible for a winter paſſage. It ſo happened that 23 days after we parted company with the Briſtol Ship that came through the Windward Paſſage with us, we fell in with her again, and ſpoke her; the evening before we fell in with the ſaid ſhip, we were taken a-back in a hard ſquall of wind and rain from the northward, which obliged us to hand our top-ſails, it continued to blow hard all that night, with a conſtant heavy rain and a great ſea, the wind N. to NNE. we were ſteering to the eaſtward under our courſes all night; at 5 A. M. the weather turned more moderate, ſet the ſingle

reeft

reeft top-ſails and ſtay-ſails, ſaw a ſail right a-head. At noon ſpoke her, found her to be the ſame ſhip that came through the Windward Paſſage with us, ſhe was lying to under a main-ſail with her three top-gallant yards acroſs; * it was then moderate weather, I aſked him if he had received any damage in the ſudden ſquall, or in the hard gale we had laſt night, or if he wanted any aſſiſtance I could give him; he anſwered, no. I could not help ſaying to him, that I thought his ſhip would have been very much a-head of me, when I conſidered how much faſter ſhe ſailed than we did. As he continued his top-gallant maſts and yards and mizen top-maſt aloft, and we got ours down the day after we got through the Windward Paſſage, and that our ſhip had been ever ſince in the ſame ſtate he now ſaw us; he ſaid he had made the beſt of his way, and he was ſurprized we were as far a-head in our voyage as he was; he ſeemed not to be inclined to inform me what was the matter with his ſhip, I paſſed and left him lying too under a main-ſail, he had not made ſail as long as we could ſee him in the afternoon, we were then in latitude 36° 3′ N. and longitude 48° 40′ W. from London, we ſaw the Briſtol ſhip the next day a great diſtance a-ſtern of us. Two days after we parted from this ſhip, we had a moſt tremendous ſtorm of wind at WSW. with rain, and a prodigious lofty ſea, the ſhip ſcudded under the fore-ſail and cloſe reeft fore top-ſail on the cap, was under the neceſſity of carrying ſail to run the ſhip before the ſea, but notwithſtanding our utmoſt endeavours, the ſea pooped the ſhip, broke the tiller in the rudder-head, and broached the ſhip round too; myſelf and ſhip's company were all upon deck, and well ſecured with ropes, to prevent our being waſhed overboard, as we had long expected to be pooped, but it pleaſed God every body held faſt, and we ſaved our head ſails by the people being very alert in clewing up and handing them. This ſhip flew ſo round too, that ſhe gave the ſails but one ſhake and threw them a-back, and before the ſhip fell off we clewed the ſails up and handed them, and laid the ſhip too under a ballanced

This ſhip had certainly received damage, but he was not inclined to tell us of it.

The ſea pooped the ſhip, broke the tiller, and the ſhip broached too, how we acted on that occaſion.

* Something unſeaman-like to lye too under a main-ſail with top-gallant yards acroſs.

Laid too under a reefed and ballanced mizen.

ballanced mizen, ſteadied the rudder by the rudder pendants and tackles, which were already prepared, and ſhipped another tiller as ſoon as the piece of the broken tiller could be got out of the rudder head, and in that manner ſecured the rudder. In this tremendous ſtorm, with a mountainous ſea, we laid too for twenty hours, without receiving any injury from the ſtorm, or the great ſea that raged or ran ſo high that it was frightful to behold; we lay to under a reefed and ballanced mizen, with all the yards braced ſharp to the wind, with the helm nearly half way a-lee, and kept the rudder pendents and tackles tight, to ſuccour the rudder and tiller, which ſhould be always done in ſuch caſes. After lying too twenty hours in the manner I have mentioned, the ſhip behaved remarkably well, and was very tight; ſhe made little or no water, and we were as comfortable as people could be in ſuch a ſituation, when the wind flew to the NW. and moderated, we made ſail and bore away, and proceeded on our voyage.

How the helm was kept in the ſtorm.

Weather became moderate, made ſail.

I muſt here beg leave to relate what happened to the Briſtol ſhip I have before mentioned, and whom we parted from two days before the ſtorm came on; when we laſt ſaw her, ſhe was a-ſtern of us as far as we could ſee her from the deck; this poor ſhip was unfortunate, ſhe ſuffered much in this ſtorm, ſhe loſt all her maſts, ſhe waſhed out two tiers of her hogſheads of ſugar, and was near foundering, it was with great difficulty they could keep her above water, ſhe arrived at Briſtol a few days after I arrived at London. I had this account from a merchant who was a paſſenger on board her, and alſo from the news-papers, wherein my ſhip's name was made mention of, and was ſaid to have foundered in the ſtorm.

The Briſtol ſhips diſaſter in the ſaid ſtorm.

N. B. This leads to ſome kind of proof of the merit and abilities of ſeamen. They are like people of other profeſſions, ſome are great proficients in their ſcience, and ſome have but very little knowledge of it, which too frequently occaſions ſuch diſaſters as I have juſt mentioned.

I muſt here beg leave to make another remark of the different conduct of different ſeaman in the management of their ſhips, when at ſea in ſtormy weather, &c.

I ſailed

I ſailed in the ſhip Beckford Galley from Philadelphia in North America, the 23d Nov. 1753, bound to Jamaica. I muſt here obſerve, that it is a ſtormy ſeaſon of the year on the Coaſt of America, and that ſhips frequently meet with great diſaſters on their paſſage to the Weſt Indies. Ships generally ſail from the coaſt of America with ſtrong NW winds, which runs them clear off the coaſt, and as you run to the ſouthward the winds become variable, and generally veer round by the north to the eaſtward, and to the ſouthward, and ſo round the compaſs, with very uncertain weather, with ſudden guſts of wind and various kind of weather, frequently violent ſtorms, but not of many hours continuance, ſeldom more than 6, 8, 10, or 12 hours, the wind ſeldom continuing long in any point of the compaſs, the NW wind excepted; the greateſt danger to be apprehended is from the South, SE or SW winds, which frequently blow very violent; indeed the intermediate ſpace, between the latitude 38° to 28° N is precarious, at this time of the year particularly, and is very hazardous to ſhips, ſo that navigators ſailing in this track, ſhould be very cautious with reſpect to the winds and weather, and be very careful how they carry ſail on their ſhips; as every cloud that flies over their heads may bring a ſtorm or tempeſt upon them. The before-mentioned ſpace of 10 degrees, being the ſpace between the raging NW winds, and the NE trade winds, which ſaid vacuity of near 10 degrees at this time of the year, when the Sun is in the ſouthern hemiſphere, occaſions thoſe frequent ſtorms and tempeſts happening, of which I ſhall ſay more in another place. The 26th of November, being in latitude 36° N and having made longitude 5° 30′ E from Cape Henlopen, the ſaid Cape bearing W 36° N, diſtant 110 leagues.

Ships ſailing from America to the Weſt Indies in the Winter time.

The winds they meet with.

SE. S. and SW. winds, violent and dangerous.

From latitude 38° to 28° N. are precarious and dangerous.

Here we met with bad weather, the wind at S and SW, freſh Gales; in firſt reef of the top-ſails. At ſunſet it foretold bad weather, which I was determined to prepare for; at 8 PM. cloſe reeft the topſails and handed them, at 10, the gale increaſing, up main ſail and handed it, lay too under a foreſail and reeft and ballanced mizen, at half paſt 10, up foreſail and handed it, and laid too under a reeft and

Met a ſtorm and prepared the ſhip for it.

ballanced mizen, and braced all the yards up ſharp to the wind, and kept the helm about half way a-lee, it was then hard gales and ſhowers of rain and hail; winds variable, with a great and confuſed ſea, the ſhip was very uneaſy, ſhe rolled and laboured much, and ſhipped ſeveral heavy ſeas; at midnight the gale of wind was violent, with a very high ſea, with inceſſant rain and hail, Winds SSW. At 3 AM the wind veered round by the weſt to WNW, and at 6 to NW, hauled up the mizen, ſet the foreſail and cloſe reeft fore topſail on the cap, and ſcudded under thoſe ſails. At noon on the 26th of November the gale abated, it was more moderate weather, with a great ſea from the NW. proceeded on our voyage to Jamaica through the Mona Paſſage, without having received any damage from the ſtorm, and arrived ſafe at Jamaica.

The ſhip received no damage from the ſtorm.

A few days after our arrival at Jamaica, one of our London ſhips arrived, who was come from Boſton in North America, ſhe was one of our conſtant traders from London to Jamaica, but had been to Boſton for a cargo of lumber, who gave a terrible account of the gale of wind we had in the night of the 26th of November, in which he loſt his mizen maſt, main topmaſt, and ſprung his main maſt, had all his ſails ſplit and blown away from the yards, his boats waſhed overboard, and every thing that was upon deck; the ſhip ſprung a leak, and they were obliged to throw part of the cargo overboard. On comparing the ſhip's log-books, it appeared by the longitude and latitude each ſhip was in, that we were not more than 7 or 8 leagues from each other; but his misfortuue happened from his not taking in his ſails in time, till the gale increaſed to ſuch a heigth that they could not take them in at all. She was a much larger and ſtouter ſhip than mine, and therefore more capable of bearing the ſtorm. This is another inſtance of good conduct in Seamanſhip in bad weather; there were ſeveral other ſhips arrived ſoon after, who had been much ſhattered and damaged in the ſaid ſtorm.

Ships that were in the ſaid ſtorm ſuffered much by it.

Obſervations

Obſervations on a Ship's ſailing upon a Wind large, or nearly before the Wind, in ſqually Weather.

In a ſhip ſailing large, with the wind upon the beam or quarter, or nearly before the wind at the time of heavy ſqualls, with a great deal of ſail ſet, which endangers not only the maſts and ſails, but the ſhip may be ſo overpowered with ſail, as to put it out of the power of the helm, or the beſt helmſman to ſteer her, or prevent her from broaching too, which may prove of fatal conſequences to the ſhip and people; many are the ill conſequences I have ſeen and known to happen from this cauſe, and not being ſufficiently attentive to the appearance of the weather, and the gathering and movement of the clouds, which the Officer of the watch ſhould ever be attentive to and prepared for, and always to take in his ſails in time. This ſhould be one of the principal cares of the Officer of the watch night or day, but more particularly in the night, when perhaps there is no other Officer in the ſhip that is awake but himſelf.

A ſhip ſailing large, or before the wind, in ſqually weather.

A caution to take the ſails in in time.

The Author's Method of acting in a Ship, when in the Situation as above-mentioned, in ſailing large, or nearly before the Wind, in a ſudden heavy Squall.

I will ſuppoſe the wind on the ſtarboard quarter, and all ſails are ſet, and a heavy ſquall ſuddenly comes on; in that caſe ſhorten the after ſail firſt, up mizen, down driver, lower down the mizen top-ſail, hawl tight the clewlines and belay them, put the helm a-weather, up main-ſail, let fly the top gallant ſheets, and clew them down on the cap, let go the ſtudding ſail tacks, lower the top-ſails down on the cap, haul tight the clewlines and belay them, * then keep the ſhip right before the wind, down jib and ſtay-ſails, hand the top gallant ſails, get the ſtudding ſails down upon deck, and make the other ſails as quiet as you can, keep the ſhip before the wind till the ſquall is over, then you may keep the ſhip her courſe again, and ſet your ſails as before; by this way of acting I never carried

How to act when taken in a heavy ſquall.

* The reaſon why the top-ſail clewlines ſhould be belayed when the yard is clewed down upon the cap is, that if they are not belayed in heavy ſqualls, the wind will blow the yards up to the maſthead again, and carry away the maſts, as has been found by experience.

carried away a maſt, yard, or ſtudding ſail boom, or ſplit a ſail, while other ſhips in company have ſuſtained great damage.

Diſaſters that happened to a ſquad on of Men of War in a ſquall through inattention, which occaſioned great delay in their proceedings.

I was in a ſquadron of Men of War, we were the commanding ſhip, in War time, in a foreign and remote country; we were going on a preſſing ſervice that required the utmoſt diſpatch, we were looking out for the land we were ſteering for, and made it about 9 o'clock in the evening, according to our expectation, though night time, we entered the Straits we were ſteering for, and were determined to paſs them without loſs of time, apprehending no danger from this proceeding, but upon our making the ſignal for ſeeing the land, and ſtill ſtanding on with a preſs of ſail, to our great ſurpriſe, the ſhips of our ſquadron tacked and ſtood the other way. As ſoon as we perceived their motion, we made the ſignal for them to follow us, and repeated it with ſeveral guns, till they were nearly out of ſight, at laſt they put about and followed us, and we proceeded through the Straits. About 11 o'clock the ſame night we were taken in a ſquall, we were ſailing with the wind upon the beam, we acted as I have before-mentioned, as it was my cuſtom to do in ſqually weather, took in our after ſails, &c. and kept the ſhip before the wind during the ſquall, which did not laſt longer than 15 minutes; we received no damage from the ſquall, it being over, we hauled our wind again, ſet all our ſails in order to puſh on without loſs of time, but ſoon after heard guns as ſignals of diſtreſs from our ſquadron, which alarmed us; we ſhortened ſail, and went under an eaſy ſail till day light in the morning, when we ſaw the ſhips of our ſquadron diſabled and in diſtreſs, viz. one ſhip had loſt her mizen maſt and main top-maſt, another had ſprung her top-maſt and ſplit her ſails, and could not carry ſail till they had ſhifted their top-maſt, another had carried away her top gallant maſts and top-ſail yards, and ſplit her ſails, and was otherways diſabled, ſo that they could not carry ſail, and that every ſhip in the ſquadron had received conſiderable damage in the ſquall but us, in the commanding ſhip, through the want of that care and attention that ſhould have been paid to the Public Service, we were obliged

The ſhip the author was in received no damage in this ſquall.

to

to lie too, or carry an eaſy ſail for 36 hours on this account, which cauſed a great loſs of time, inſomuch, that another ſquadron of Men of War that ſailed two days after us from the ſame place that we did, got to the place of deſtination before us. Sorry am I to ſay, that this is a plain indication of our want of conduct in Officers and Seamanſhip, and that the beſt plan concerted by the moſt able Officers, may be defeated by the negligence and inattention of improper Officers, greatly to the detriment of the National Service. Many inſtances ſimilar to this I have ſeen, and could mention, but think it prudent not.

They acted as he has before-mentioned, by taking in the after ſails, and keeping the ſhip before the wind till the ſquall was over.

This proceeding of our ſquadron upon this occaſion, gives but a poor proof of our Seaman and Officerſhip, and really puts a man's patience to the trial.

Remarks and Obſervations for the Conſideratiou of the practical and judicious Seaman, with reſpect to the ſtaying a Ship's Maſt, and ſetting up her Rigging, &c.

This being a matter of great conſequence to the ſafety of the ſhip, and as ſeamen have different opinions and ideas of this point of a ſeaman's duty, and as it is a thing of ſo material conſequence to the ſhip and all that is in her, I think it a matter well worth the ſerious conſideration and attention of ſeamen, and ſhall ſpeak of this piece of ſeamanſhip in its various caſes, as particularly as I can, and to the beſt of my judgment, and ſhall have occaſion to mention ſome things that I have great reaſon to believe every ſeaman does not know, and therefore ſhall relate every circumſtance that occurs to my memory, of the buſineſs I am going to ſpeak of, for the benefit of ſeafaring men in general.

Remarks upon ſtaying maſts, and ſettling up rigging.

When a ſhip is fitting out for ſea, it is to be ſuppoſed the Commanding Officer, who is thought to be a Seaman and an Officer, will take care to ſee that the rigging is frequently ſet up, in order to ſettle it at the maſt head, and to ſettle and ſtretch it properly for the ſhip's going to ſea; and when the ſhip is nearly ready for ſailing, and before the ſails are bent, more care and circumſpection ſhould be had to the ſtaying the maſt, and ſetting up the rigging for ſea, than before had been obſerved; but this buſineſs or duty is too often left to inferior Officers, who are not proper judges of the duty they are entruſted with, nor do they know the ill conſequences of its not being properly done; I therefore ſhall make ſome remarks upon this buſineſs.

The rigging to be frequently ſet up, whilſt the ſhip is fitting for ſea.

The

The firſt thing to be conſidered is, the ſtanding of your maſts, that is to ſay, whether they are ſtepped to ſtand upright, or to rake aft, or otherwiſe, for the maſt ſhould ſtand in the ſame poſition they are ſtepped. The ſecond thing to be conſidered is, that all the ſhips maſts hand by the bowſprit. The third conſideration is, the ſecurity of the bowſprit, to ſee that it is well gammoned, and that the bobſtays and bowſprit ſhrouds have been frequently ſet up when the other rigging was, but more particularly at this time, when the ſhip is near going to ſea: Suppoſing this to be done, The fourth conſideration is, the ſtaying of the maſt; before you ſtay the maſt, to take care that all the wedges are knocked up, and that there is nothing in the way to hinder the maſt from going forward, to ſtay the maſt with a ſteady eaſy pull, of the runners and tackles which are got forwards for that purpoſe, and when the maſt touches the fore part of the partners, not to bowſe any more upon the tackles; if you do, you will be in danger of ſpringing your maſt. I have known many maſts ſpring in ſtaying them. In ſtaying the maſt it muſt be got further forwards than you mean it to ſtand. When the rigging is ſet up, the ſhrouds will draw the maſt aft again, as they are ſet up, and great care ſhould be taken in ſetting the ſhrouds up equally tight alike, * and not to ſet the after ſhrouds and ſwifters up as tight as the other ſhrouds, for they make ſo great an angle with the maſts, that if they are too tight ſet up, they will lay an additional ſtrain upon the ſtays, and as they are not of equal ſecurity to the maſts as the other ſhrouds are, which are more a-breaſt of it, it is not therefore neceſſary they ſhould be ſo tight ſet up, they being only of uſe when the ſhip is pitching in a head ſea.

To ſet up the topmaſt rigging.

When the lower maſts are ſtayed, and the rigging ſet up, the topmaſts ſhould be ſtayed ſo as to be upon a direct line with the lower maſts, and

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* I have known Officers, inſtead of endeavouring to ſet the ſhrouds up tight alike, have only ſtudied to keep the dead eyes of an equal height. This is an unpardonable folly, for when the ſhip comes to ſea, and rolls about, not half the rigging bears the ſtrain of the maſts, and thoſe that do, are ſtrained to pieces and broke, to the great danger of loſing the maſts.

and then care to be taken that the topmaſt ſhrouds and back ſtays are well ſet up, equally tight alike. This is as material as ſetting up the lower rigging in a proper manner, but this is too often left to injudicious people to perform, to the great detriment of the ſhip and ſervice.

The ſetting up a ſhip's rigging properly for ſea, is a piece of duty of ſuch conſequence, that no Officer ſhould be above ſeeing it properly done, but it is ſometimes left to the Boatſwain of the ſhip; if he is a good Seaman and a good Officer, he may happen to be a proper perſon to ſee the duty performed, but it does not always happen that the Boatſwain is a proper man, as I have often experienced; then who is to ſee this great piece of duty performed? I anſwer, the beſt and moſt experienced Officer in the ſhip. When I was Maſter of a Man of War, I always thought it my duty to ſee the rigging properly ſet up, under my directions. It is a happy thing when you have a good Boatſwain, that you can truſt to perform this duty, but how often does it happen that this good man, the Boatſwain, is interrupted in his duty by ſome ſuperior Officer who knows but very little of the matter. Much better would it be for the ſervice, if ſuch an Officer had but prudence enough to conceal his weakneſs and want of profeſſional knowledge, and leave the Boatſwain (if a proper man) to carry on the duty without interruption, for nothing hurts a good ſeaman more than to be interrupted in performing a duty he is well acquainted with, by a man, though a ſuperior Officer, yet of inferior knowledge of ſeamanſhip to himſelf.

What Officer to ſee the rigging ſet up.

The Boatſwain, if a proper officer in his ſtation, is the proper perſon to ſet up the rigging.

Having ſaid much about ſetting up a ſhip's rigging before ſhe goes to ſea, I ſhall now ſay ſomething about ſetting up a ſhip's rigging at ſea in any weather, as it may be neceſſary, or neceſſity may require it to be done, in order to ſave the maſts from being carried away by the rigging being too ſlack, by which many ſhips have loſt their maſts, and have been greatly diſtreſſed, and hope what I am going to mention may in ſome meaſure prevent too many accidents happening in future, as I have known to happen the courſe of in my ſervice.

Directions for ſetting up rigging at ſea.

When a ſhip is firſt fitted out, and ſails out of port to ſea, and after being at ſea ſometime, the ſhip's natural motion with her rolling will ſettle

To ſet up the rigging in any weather when it is neceſſary.

ſettle the rigging at the maſthead, and in other reſpect ſtretch the rigging ſo that it will become ſlack, and will endanger the maſt if it is not ſet up as ſoon as poſſible, let the weather be fair or foul.

Conſiderations on ſetting up a ſhip's rigging at ſea.

There is in this caſe three things neceſſary for the judicious ſeaman to conſider, firſt the method, ſecond the propriety, thirdly to do it with ſecurity and ſafety, ſo that the maſts may ſtand in the ſame poſition that they did when the rigging was ſet up, when the ſhip ſailed out of port.

The difference betwixt ſetting up a ſhip's rigging at ſea, and in a harbour.

I will ſuppoſe it tolerable moderate weather, but there is a tumbling ſea, the ſhip rolls and labours pretty much, and your maſts want to be ſtayed, as well as your ſhrouds want to be ſet up, and that to be done as expeditiouſly as poſſible. The ſeaman is now to conſider there is a vaſt difference betwixt ſetting up the ſhip's rigging at ſea, where ſhe has great motion, and the ſetting up the rigging in a harbour, where the ſhip has no motion; in the latter caſe you have time to ſet it up at your leiſure, and to ſet up a ſingle ſhroud, or a pair at a time, but in the former caſe you muſt be as expeditious as poſſible, and ſet up as many ſhrouds at a time as you can; at leaſt half the ſhrouds on each ſide, muſt be ſet up at the ſame inſtant of time, for two or three ſhrouds at a time is not ſufficient to bear the weight of the maſt, when the ſhip is rolling about at ſea.

The method of putting up a ſhips rigging at ſea.

I will ſuppoſe it tolerable moderate weather, but there is a tumbling ſea, and the ſhip rolls and labours pretty much, and the ſhip is ſailing before the wind, this being the eaſieſt way ſhe can go; to perform this ſervice in ſetting up the rigging, the firſt thing to be done, is to mark all your lanyards with a rope yarn at the hole of the lower dead eye, two good men to be placed to each lanyard, with a with a ſtick of 15 or 16 inches long marked into inches very exactly, the two men at each of theſe lanyard, one to have a hanging nipper, and the other a good heaving nipper, made of a ſtrand of good yarn, with a treenail or belaying pin for a heaver, theſe two nippers will hold the lanyard faſt, ſhould the tackle or any thing give way when you are ſetting up the ſhrouds. There ſhould be a luff tackle to every ſhroud, and

Temporary tackles ſhould be prepared for this ſervice, as it is of ſuch conſequence to the ſafety of the ſhip.

another

another tackle upon the luff tackle fall; the falls reeved through leading blocks, and ſtretched along the deck; I will ſuppoſe you are ſetting up four or five ſhrouds at a time on each ſide, all things being now ready, you will ſhorten ſail, lower the top-ſails on the cap, and haul up the courſes, and then ſtay the maſt with caution; the wedges muſt not now be knocked up as if the ſhip was in harbour, the lanyards of the ſtays being marked with a rope yarn, the ſame as the ſhrouds, you will know every pull of the tackle how much of the lanyard you have got by the meaſuring ſtick, and when you find you have got enough, bowſe no more, but ſecure the lanyard. If when the maſt was ſtayed in the harbour, you had meaſured the diſtance from the gallows to the main maſt, and from the fore top-ſail ſheet bitts to the foremaſt, the ſame meaſure would be a guide to you at ſea, which ſhould always be done, and ſet down in the Log Book.

The meaſure ſhould be taken as ℔ margin, the maſts being ſtayed, we ſhall now proceed to ſet up the ſhrouds with care and caution; two good ſeamen are placed to each lanyard, with their nippers and meaſuring ſticks, as before-mentioned, and your tackle falls are well manned, I will ſuppoſe you to ſet up four or five ſhrouds on each ſide at the ſame time, which may be eaſily done with the roll of the ſhip, the men that are in the chains with the meaſuring ſtick, will tell you how much you have gained upon each lanyard; you are to take care not to get more upon one ſide of the ſhrouds than you do on the other, nor upon one lanyard more than upon another; the meaſuring ſticks will guide you to an inch; you are to conſider that ſix inches in the lanyards is one inch in the ſhroud, twelve inches in the lanyard is two inches in the ſhroud, and 14 and 15 inches in the lanyard is 2½ inches in the ſhroud; the rigging muſt have been very ſlack indeed, if it requires more than 14, 15, or 16 inches of each lanyard to be gained in ſetting up, and when you have gained ſo much on each ſide of the lanyards, you then are ſetting up, and you judge the ſhrouds are tight enough, then ſtand faſt, bowſe no more, but be cautious not to come up but one tackle at a time, hitch and ſecure that lanyard, and ſo the

To get no more upon one lanyard than you do upon another.

How much to gain upon each lanyard.

reſt, one after another, until you have ſecured the reſt of the lanyards of the ſhrouds, that you have been ſetting up; bowſe the hitches of the lanyards well tight and ſecure them, then ſet up the remainder of your ſhrouds that have not been ſet up, as expeditious as you can, taking care not to get more of the lanyards by meaſurement, than you have of thoſe that were ſet up before *.

To ſet up the top-maſt ſhrouds, and back ſtays at ſea.

When the lower ſhrouds are all ſet up, then mark the lanyards of the top-maſt ſtays, ſhrouds, and back ſtays, with a rope yarn, in the ſame manner you did the lanyards of the lower ſhrouds, that you may know how much you get on each lanyard by the meaſuring ſtick, and not to get more upon one lanyard than you do of another, but to ſet them up all alike. I muſt here obſerve, you will not get ſo much of the top-maſt ſhroud lanyards, as they have been tightened by ſetting up the lower ſhrouds, but you will get a great deal of the lanyards of the top-maſt backſtays, but have regard to the meaſuring ſtick, and get not more of one than the other, and ſet them up all alike to the beſt of your judgment; let me remind you to take a medium, you may as well ſet them up too tight, as they were before too ſlack; if you ſet the back-ſtays up too tight, either the back-ſtays or top-maſt muſt give way. This muſt be left to the experienced ſeaman's judgment.

Much muſt be left to the ſeaman's judgment.

The ſhip's rigging being all properly ſet up, by which the maſts are made ſecure, you may make ſail again, and proceed on your voyage, as before.

Remarks on ſetting up a ſhips rigging at ſea, in ſtormy weather.

To ſet a ſhip's rigging up at ſea in a ſtorm, which neceſſity may oblige you to do, as it did me, and what has happened may happen again. It is a proverbial ſaying, *Neceſſity has no Law*, and it is moſt certain, Neceſſity quickens our invention, and leads us to do many things that we never thought of, and therefore Neceſſity is properly called the *Mother of Invention*; A quality that every ſeaman ſhould endeavour to be poſſeſſed off, as it is ſo neceſſary and ſuitable to his profeſſion.

An inſtance of the neceſſity of ſetting up a ſhip's rigging at ſea, in a ſtorm.

I ſhall now relate a circumſtance that proves the neceſſity of ſetting up a ſhip's rigging at ſea in ſtormy weather, by which the ſhip's maſts were

* The Author has ſet up all the rigging of a 70 gun ſhip in an hour at ſea in a ſtorm.

were ſaved, and a great advantage accrued therefrom, with reſpect to the good of the ſervice, and the benefit of the Nation. More may be ſaid of this hereafter, on the efficacy of that ſingle action or performance. I ſhall now proceed to the hiſtory of this matter.

In the year 1758, I was in his Majeſty's ſhip Grafton; ſhe was fitted out with all new rigging; we ſailed from Portſmouth, bound to India, with another Man of War, with a large Convoy of Indiamen, Weſt Indiamen, and other Merchant Ships, who took the benefit of our Convoy; we met with pretty rough weather in our paſſage, the 14th day after we were out of the Channel, being in latitude 39° 30′ N. It being then ſtormy weather, and we were laying too under a cloſe reeft main topſail on the cap, and a reeft and ballanced mizen, as we had been all night, with a very hard gale of wind with rain and a very great ſea, when we were alarmed by the Carpenter of the ſhip, (who was a ſober ſedate good man, and very capable in his profeſſional knowledge,) that the main maſt was ſprung below the lower gun deck, in the well and in the wedges of the lower gun deck. This was very alarming in the ſituation the ſhip was in, in a violent ſtorm, and a great ſea. This circumſtance happened at break of day, the Captain was immediately acquainted with this diſaſter, and a conſultation of Officers was called, to know what was beſt to be done, it was agreed that nothing could ſave the maſt but ſetting up the rigging, which was ſaid to be impracticable, and impoſſible to be done in ſuch a ſtorm, and ſuch a great ſea: all the Lieutenants, Officers and Captain were of this opinion. The Author was the Maſter of the ſhip, who ſaid to the Captain, Sir, It can be done, and I will take upon me to perform that ſervice, but it muſt be done immediately. The Captain anſwered, he was glad I would undertake to perform that material piece of ſervice, and ordered all the Officer's and ſhip's company to follow my directions; we accordingly ſet too to perform this important piece of duty, which was thought impoſſible to be done, and executed it in a ſeaman like manner with ſucceſs, and without accident.

The main-maſt found ſprung.

The officers of the ſhip gave it up, and ſaid it was impoſſible to ſet up the rigging In ſuch a ſtorm, and that they never heard of ſuch a thing being done.

The Author performed this ſervice, as hereafter mentioned.

The Method we made Uſe of to perform this Important Service.

The method of performing this important piece of ſervice.

The firſt thing to be done, was to ſtay the main-maſt, which was ſtept to rake very much aft, (this was one cauſe of our preſent evil.) We ſtretched the fiſh-tackle along the main deck, handed the foremaſt block up on the forecaſtle, the after block ſecured to the main top-ſail ſheet bitts, and clapt it upon the lanyard of the main ſtay, and got a luff-tackle and main ſtay-tackle on the lanyard of the ſpring-ſtay, then put a rope yarn mark on the lanyard, at the edge of the heart of the ſtay, that we might know how much of the lanyard we got, and had two good ſeamen with hanging and heaving nippers, ready to nip the lanyard, ſhould any thing ſlip or give way, then, when the ſhip pitched forwards, bowſed upon our tackles, which ſtayed the maſt with eaſe and pleaſure, taking care not to ſtay our maſt too much.

We knew by the mark on the lanyard, how much we had got of the ſtay; when we judged we had got enough of the lanyards of the ſtays, which we knew by the meaſurement of the diſtance from the croſspiece of the gallows to the forepart of the mainmaſt, we then ſtood faſt, and ſecured the lanyards of our ſtays. Whilſt we were ſtaying the main maſt, we took care to ſtay the main topmaſt at the ſame time, in proportion to what we gained on the main ſtay, and then went about ſetting up the main ſhrouds; the tackles had been preparing and getting ready, whilſt we were ſtaying the main maſt.

The Method of ſetting up the Main Shrouds in a Storm like the abovementioned.

The method of ſetting up the main ſhrouds.

We had ſix luff-tackles on each ſide, both to the windward and leeward, and a tackle upon each luff tackle fall; thoſe tackles were put upon the 1ſt, 2d, 3d, 4th, 5th, and 6th, ſhrouds; there were two good ſeaman placed to each lanyard, with a good hanging nipper, and a heaving nipper, made of a ſtrand of good yarns, with a treenail or belaying pin for a heaver, theſe men, placed to the lanyards of each ſhroud,

* The Author always had a meaſure by which he knew how many inches it was from the afterpart of the gallows of the booms, to the forepart of the main maſt, when the maſt was ſtayed as far forward as it ſhould be, and which he made uſe of upon this occaſion.

ſhroud, with theſe nippers, will hold the lanyard faſt, or from coming up, ſhould the tackles or any other thing give way. When ſetting up the ſhrouds, all the lanyards of the ſhrouds to be well marked with a rope-yarn, at the hole of the lower dead eye, that is to ſay, the running part of the lanyard to be marked with rope a yarn; the two men who are placed to the lanyards of each ſhroud, had a ſtick of 15 or 16 inches long, marked into inches very exactly, the tackle falls that were put upon the luff-tackle falls, were reeved through leading blocks along the deck, and each tackle-fall was manned. When all things were ready, we ſet up the 6 weather ſhrouds firſt, the men in the chains will nip the lanyards well, and put the luff-tackles on the lanyards, and then the other tackles were put upon the luff-tackle falls, and when every thing was ready, then ſtand by to bowſe upon our tackles. When the ſhip rolls to windward, the man in the chains with the meaſuring ſticks, will tell you how much you have gained upon each lanyard; take care not to get more of one lanyard than of another, the meaſuring ſticks will guide you to an inch, you are to conſider that ſix inches in the lanyard is one inch in the ſhroud, and twelve inches in the lanyard is two inches in the ſhroud, and fourteen or fifteen inches in the lanyard is two and one half inches in the ſhroud; the rigging muſt have been very ſlack indeed, if it requires more than 12, 14, 15 or 16 inches of the lanyard to be gained in ſetting up, and when you have gained ſo much of each of the lanyards you are then ſetting up, and you judge the ſhrouds are tight enough, then ſtand faſt, bowſe no more, nip the landyards well, but be cautious not to come up but one tackle at a time, hitch and ſecure that lanyard, and ſo to the reſt, one after another, till you have ſecured the reſt of the lanyards of the ſhrouds you have been ſetting up; bowſe the hitches of the lanyards well tight, and ſecure them, then ſet up an equal number of the lee-ſhrouds, and get exactly the ſame number of inches of the lee lanyards that you did of the weather lanyards, and no more. When the lee ſhrouds are ſet up, then ſet up the remainder of the weather ſhrouds, taking care to get exactly the ſame number of inches of the lanyards that you got

To get no more of one lanyard than another.

To meaſure the number of inches you get upon each lanyard.

To get the ſame number of inches on the lee lanyard that you have got on the weather lanyard, and no more.

got of the other ſhrouds, that were firſt ſet up, and proceed with the ſame caution and care, and when all the weather ſhrouds are ſet up, then ſet up the remainder of the lee ſhrouds, taking care to get no more inches of the lanyards than you got of the weather ſhrouds, being well aſſured, that if your maſt ſtood upright when your rigging was laſt ſet up, it will do ſo now. *

When your lower rigging is all ſet up, as above-mentioned, then ſet up the topmaſt ſhrouds and back ſtays in the following manner, mark all the lanyards in the hole of the lower dead eye, as before-mentioned in ſetting up the lower ſhrouds, and take particular care to get no more of one lanyard than you do of another, that you may know how much you get on each lanyard by the meaſuring ſtick, and get the ſame number of inches on each of the lanyards that you do of the other, but to ſet them up all alike, and take care not to get more inches of the lee lanyards than you do on the weather lanyards. I muſt here obſerve, you will not get ſo much of the topmaſts ſhroud lanyards as they have been tightened by ſetting up the lower ſhrouds, but you will get a great deal of the lanyards of the topmaſt back ſtays, but have regard to the meaſuring ſtick, and get not more of one lanyard than you do of another; ſet them up all alike, to the beſt of your judgment, and take care to get no more inches of the lee lanyards, than you do of the weather lanyards, and let me remind you to keep a medium; you may as well ſet them up too tight as they were too ſlack; many maſts have been carried away by ſetting up the rigging too tight; if you ſet the backſtays up too tight, either the backſtays or topmaſts muſt give way. This muſt be left to the experienced ſeaman's judgment.

To ſet up the top-maſt rigging in a ſtorm.

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* Whilſt we were ſtaying the maſt and ſetting up the rigging, the ſhip was laying too, under a cloſe reeft main topſail on the cap, which we did not take in, for the following reaſon, viz. we judged, had the main topſail been taken in, the ſhip would have laboured and rolled exceſſively, and would have been in danger of carrying away her maſts.

The whole of this material piece of duty was performed in the ſpace of an hour and an half, by which we ſaved our maſt. The ſame day we found the fore rigging to be ſlack turned to, and ſet up fore ſhrouds, fore top-maſt and ſhrouds and back ſtays, in the ſame manner. We did the main main topmaſt rigging in the ſpace of an hour, ſtrictly obſerving the ſame method in ſetting them up, which, if proper attention is paid to the method of ſetting the rigging up, as before-mentioned at ſea, no error or inconveniency can happen from it, but it is plain a ſhip's maſt may be ſaved by ſetting up the rigging when neceſſity requires it to be done, though it ſhould blow a ſtorm.

Some Remarks on the ill conſequences that might have happened to us and our Convoy, if we had loſt our Maſts.

I muſt here obſerve, there were but two Men of War of us with this great Convoy, viz. the Grafton of 70 guns, and Sunderland of 60, with eight ſail of Eaſt India Men, and a great number of Weſt India Men and other ſhips, under our Convoy.

In the evening before we performed this extraordinary piece of ſervice, I have juſt before mentioned, we were lying too under a reeft and ballanced mizen, and cloſe reeft main topſail on the cap, in a hard gale of wind and a great ſea, the weathermoſt ſhips of our Convoy ſaw a ſtrange Fleet of ſhips to windward of them, one of them had a red flag at the main topmaſt head, but ſaw nothing of them next morning. When we arrived at Madeira, we were informed the ſhips we had ſeen were a French Fleet of Men of War and India Men, bound to India; and when we ſtopped at the Iſland of St. Jago, the ſaid French Fleet, had ſailed from thence but a few days before we arrived there, who were of very ſuperior force to our Fleet, being two ſhips of 74 guns, and two of 64.

Had we in the Grafton, who was the commanding ſhip, loſt our maſts, and the enemy being in ſight, as they were, as I have juſt mentioned, the enemy ſeeing this, it might have induced them to have brought us to action, and muſt, from their great ſuperiority to our Fleet,

Fleet, have taken the whole of them, both Men of War and India Men, which would have been a great National loſs, and would have ruined all our affairs in India at that time; and as it was, when we arrived in India with all our reinforcement, we were ſtill very much inferior to the French, both by land and ſea. When an honeſt man comes to conſider his duty, as a Seaman and Officer, how much ought he to exert himſelf to prevent any ill conſequences happening to his ſhip, which may prove a National calamity? A ſingle ſhip being loſt or diſmaſted, may prove fatal to a ſmall ſquadron, as ours was, and may cauſe them to be captured by the enemy, which would be a loſs that might have been ſeverely felt by us, and may be of ſuch great advantage to the enemy, as to produce great and very ſerious conſequences to the Nation, which by the ſeaman's prudence and care may be prevented. This ſhould be the endeavour of every good man who has the intereſt of his Country at heart.

Some Remarks and Conſiderations on a Ship's Rigging.

The different effects that wet and dry weather have on the ſhip's rigging.

When the rigging is ſet up, great attention ſhould be had to the alteration of weather, according to the climate the ſhip is in. This method or rule requires attention to be paid to it more in hot than in cold climates, as the alteration of weather more immediately affects a ſhip's rigging in the former than in the latter caſe, which I ſhall endeavour to ſhew by plain demonſtration. It is a well known maxim or rule in philoſophy, that heat and drought expand, and wet and cold contract all things; even metal is affected by thoſe extremes, and more particularly cordage; it therefore requires the ſeaman to be very attentive to his rigging, particularly in hot climates, when there has been a long continuance of dry weather; he may unthinkinly ſet up his rigging until he ſtretches all the ſtrength out of it, and may ſtretch it to a catgut, but beware of the conſequences when the weather changes after a long drought, and the weather becomes conſtantly wet, being the oppoſite

oppoſite extreme, which will contract your rigging as much as the dry weather relaxed it, and it will if great care is not taken ruin both your rigging and maſts, for rigging may be tore to pieces and maſts may be ſprung by the rigging being too tight, and an example, which I ſhall beg leave to mention, will prove the truth of this aſſertion.

The following is a matter of fact, viz.

A proof of the great effect that wet weather has on rigging.

From ſmall things we may be led to ſee the conſequences of greater. I have often made my obſervation on the cloath lines that are put up in gardens and other places to dry cloaths. This is an obſervation I have made, not only in other people's grounds and gardens, but in my own, and, from a number of Remarks of this kind obſerved the following, viz.

Obſervations made on cloaths lines in a garden, ſhewing how they are effected by the weather, and a comparriſon made between them and a ſhip's rigging.

That in the courſe of a very hot ſummer's day, when lines have been put in a garden or place for drying cloaths, they have been loaded with heavy wet linnen in the courſe of the day, that in the evening when the linnen, or the ſaid cloaths are taken down, that the lines are very ſlack, and hang down in great bights, in ſuch a manner as you would think no kind of weather could ever make them tight, yet have I ſeen, if there has been rain in the night, or even a wet fog, that the ſaid cloaths lines that were ſo ſlack in the evening, have been as tight as harpſtrings in the morning, beyond what you would ſuppoſe them to bear, and ſometimes I have found them broke, and ſometimes the hooks that have been driven into the wall to faſten the lines, to have been drawn out of the wall by the ſhrinking or contracting of the line, occaſioned by the wet weather. Many are the obſervations of this kind I have made, which ſhews a ſhip's rigging muſt be affected by the alteration of weather, and particularly by a long courſe of dry weather, to a ſudden change of wet weather. A circumſtantial account of a matter of fact that happened to the ſhip I ſerved in when I was in the Eaſt Indies, will prove the remark I have made on the cloaths lines to be juſt as I have mentioned it.

Remarks and Obſervations on the effects that wet and dry weather have on ſhip's rigging.

In the year 1761, in the month of May, we were fitted out in the Elizabeth at Bombay in order to go to the coaſt of Coromandel, as it was War time, and therefore judged neceſſary to have ſome force

on that coaſt, if the enemy ſhould ſend any force there, as the whole of our fleet was at that time at Bombay; we were accordingly fitted out to go on that ſervice, we had arrived at Bombay in January, and had been there all the dry weather ſeaſon, our ſhip had been in dock to be repaired to ſtop her leaks, as ſhe had been ſo leaky that ſhe made at the rate of four, ſometimes five feet water in an hour, but our leaks being ſtopped, we were fitted out again in order to go to the coaſt of Coromandel, as above-mentioned. The rigging being ſet up in this dry weather ſeaſon, when the heat and drought was almoſt beyond bearing, but as we were preparing for ſea, it was neceſſary to ſet up the rigging for ſea ſervice; we went out of Bombay harbour to the road, in order to be more ready for ſailing, when the Monſoon ſhould be ſet in. During the month of May, the weather is ſultry hot and almoſt inſupportable, being the latter end of the NE Monſoon; the SW Monſoon ſets in, in the latter end of this month, or early in June, with ſtrong gales from the SW with a deluge of rain and ſtormy weather, and not being ready to ſail before the Monſoon ſet in, we unbent our ſails, ſtruck yards and topmaſts, got down the top gallant maſts, got in the ſpritſail yard and rigged in the jib-boom, and made the ſhip as ſnug as poſſible to ride out the breaking in of the monſoon, which we did, but I was aware of the manner that our rigging would be affected by the change of weather, after the long ſeaſon of hot and dry weather we had, to exceſſive wet and cool weather, which I knew would contract or ſhrink the rigging in ſuch a manner as would ſtrain and tear it all to pieces, or muſt ſpring the maſt, and was likely to produce many other evils; I therefore propoſed to eaſe off all the lanyards of the ſtays and ſhrouds, and to caſt off the hitches of the puttock ſhrouds, in order to prevent the accidents that were to be apprehended from the ſudden change of weather, but this advice was not attended to, (as *Naval Self-ſufficiency* is frequently uppermoſt with ſome men) and I was anſwered, They never heard of an inſtance of the kind. However, the event proved the expediency of my propoſal, which was as follows. The rigging was ſo much contracted by the wet weather, that the collar of the main ſtay parted in two, which had been new fitted,

Evident proof of the accident that happened by not eaſing off the lanyards of the ſhrouds in wet weather.

fitted, ſeveral of the lanyards of the lower ſhrouds gave way, as did ſome of the chain plates, and ſome of the ſhrouds were ſtranded, and ſome broke quite in two. The puttock ſhrouds were ſo ſhrunk, that as the topmaſts were ſtruck, they drew down the top brim, or ſides of the top to ſuch a degree, that they broke both the main and fore croſs-trees, which produced many other accidents, too tedious here to mention; and when we came to ſee ſo many evils produced by obſtinacy, we eaſed off our lanyards, caſt off our puttock ſhrouds, &c. &c. which we ſhould have done at firſt, when the wet weather came on. This would have prevented all the evils that happened to us from want of attention.

I juſt mentioned this circumſtance, to ſhew that ſeamen are not all alike attentive to their official duty, nor are they all alike Philoſophers, though I think philoſophy is a ſcience every ſeaman ſhould be in ſome meaſure acquainted with, as it will lead him to an uſeful knowledge of many things relative to his profeſſion; and in my opinion, if every ſeamen had ſomething of the Philoſopher in him, he would then be a better profeſſional man in his line of duty.

Deſcription of a SW. Monſoon at Bombay.

The 30th June, 1761. The Monſoon being ſet in at Bombay, we were ordered to ſail, for the coaſt of Coromandel, with four ſail of the Line, the Pilots at Bombay refuſed to take charge of the Men of War, to pilot them to ſea at this time of the year, as a thing that had never been done in the memory of man. The Company's Maſter Attendant at Bombay, who had the appointing of the Pilots for the Men of War, and who himſelf always piloted the Flag or Commanding Officer's ſhip, did upon this occaſion refuſe to take charge of the Elizabeth, which was the Commanding Officer's ſhip, on account of the bad weather, and the unfavourable time of the year, being the very height of the Monſoon, when the appearance of things made it really frightful to look at, the ſky loaded with heavy clouds, threatening a violent ſtorm, with thunder, lightning, and a deluge of rain, a prodigious great ſea conſtantly rolling in upon ſhore, and the ſea as white as milk, which made it really diſcouraging; or

* A Commodore's ſhip with a Captain under him.

in other words, frightful for a man to think of carrying a ſhip to ſea at this ſeaſon of the year, but the ſervice was preſſing, and we were ordered to go. The Author was the Maſter of the Elizabeth, who took upon him to carry the ſhip out of harbour to ſea. The * Admiral inſiſted upon it that the Maſter Attendant † ſhould find Pilots to carry the ſquadron out of the harbour, as the Maſter of the Elizabeth would take charge of her, and carry her out of the harbour to ſea. ‡ With great reluctance the Maſter Attendant, at laſt took charge of one of the ſhips himſelf, and found Pilots for the others.

The ſhip prepared for going to ſea in the SW. Monſoon.

We prepared our ſhip, the Elizabeth, for this hazardous undertaking, in the following manner. Inſtead of top gallant maſts, we got up ſmall flag-ſtaffs or ſtumps, got down all the ſtudding ſail booms from the yards, got the ſpritſail yard in upon deck, and rigged in the jib boom, and made the ſhip as ſnugg as poſſible, that ſhe might be prepared to encounter the tempeſtuous weather, which we were to meet with the moment we opened the harbour's mouth. Our ſhip being prepared, and ready, we ſailed the 1ſt day of July, 1761, and with great difficulty got out of the harbour. As ſoon as we got out of the harbour of Bombay, there run ſuch a prodigious ſea, with a ſtrong ebb tide, that occaſioned it to break, as though you were in ſhoal water, as we experienced in the Elizabeth, which made the ſhip pitch forecaſtle under, and fill both her upper and lower decks with water, ſo that the Carpenter of the ſhip reported, that if the ſhip pitched again ſo deep, and took in as much more water as ſhe had done, that ſhe would founder.

Shipped ſo much water, were obliged to bear away, and anchor under Old Woman's Iſland.

This report from the Carpenter, and ſeeing that none of our ſquadron could get out but our ſhip, and night coming on, we bore away, and anchored off the outer part of Old Woman's Iſland, in order to keep what ground we had got, and to be ready to take the advantage of the next

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* Admiral Corniſh, being then at Bombay.

† The Company's Maſter Attendant.

‡ The Author had carried the ſhip in and out of harbour ſeveral times, and was the firſt Maſter of a Man of War that ever carried a King's ſhip in or out of Bombay harbour.

next tide in the morning. The beſt place to anchor in upon theſe occaſions, is to bring Malabar Point on with, or touching the outward part of Old Woman's Iſland N19°W. and the Breakers on the Sunken Rock on with Bombay Flag Staff, N9°E. in 7 fathoms at low and 9 fathoms at high water, here we were ſheltered from the great SW. ſea by the Reef off Old Woman's Iſland; the bottom clear and good holding ground.

Marks and bearings for anchoring.

The next day, being the ſecond of July, weighed and turned out to ſea with the ſame kind of wind and weather, and a great ſea, as before-mentioned. For the particulars of this run down the Coaſt at this ſeaſon of the year, See the Book of my Voyage to the Eaſt Indies, Page 34.

Sailed and got to ſea.

We ſailed, or got out of Bombay the 2d day of July, and ſaw the Iſland of Hunary this day, from which we took our departure, and ſaw no other land on the Coaſt of Malabar after that, and made Point de Gall on the Iſland Zeloan, the 12th July, which ſhews we were 10 days on our paſſage in very troubleſome unpleaſant weather; we were entirely guided by our lead, that is to ſay, by our ſoundings, as mentioned in my deſcription of the ſailing down this coaſt in the SW. monſoon. *Latitude*, *Lead*, and *Look-out*, are the beſt guides in navigation in ſailing coaſtwiſe.

I muſt here obſerve when we made Point de Gall; on the Iſland Zeloan, or Ceylon, I found my reckoning exactly right, which ſhews the ſounding we had all along the Coaſts of Malabar muſt have been the exact diſtance from the ſhore that I ſuppoſed them to be, which gives me particular ſatisfaction.

I muſt here beg leave to mention one circumſtance more that happened to us in our paſſage from Bombay to the Iſland Zeloan at this ſeaſon of the year, as it may be a leſſon of inſtruction to ſeamen to be more obſervant and more attentive to their duty, and to pay more attention and take proper notice of what is ſaid to them by men of more experience, and men who may be more thoughtful and attentive to matters relative to the duty of the ſhip, than they themſelves are, who are too often carried

Advice to ſeamen in general.

carried away by pride, obſtinacy, rudeneſs, and ill manners, from which many accidents, as they are called, are brought to happen, which may be more properly called acts of ignorance, obſtinacy, and folly.

An accident that happened which might have been prevented.

The accident that happened to the ſhip, if it may be ſo called, was as follows, on the 6th of July 1761, ſuppoſed ourſelves nearly abreaſt of Cape Raymas by our reckoning, and diſtant from it by our ſoundings, 9 or 10 leagues, being in 51 fathoms water, fine black ſand, we had a large ſwell from the SW. with little wind and rain, I came upon deck at break of day in the morning, the ſhip was then upon the ſtarboard tack, cloſe upon a wind, ſtanding to the ſouthward. The Officer of the watch told me he had been ſetting up the weather ſhrouds of the main top-maſt, which made me look up to it, I ſaw the maſt-head was got very much over to windward, inſomuch that the maſt was quite in a bite to leeward, the top-ſails were double reeft, though then but little wind, being afraid to let the reefs out, on account of the uncertainty of the weather. I ſaid to the Officer of the watch, that they had ſet up the weather ſhrouds too much, that the maſt head being got ſo much to windward, and ſo great a bite in the maſt to leeward, that they had crippled the maſt, by ſitting up the weather ſhrouds ſo much, and that the maſt was in danger of being carried away by every roll the ſhip took to windward, the Officer ſaid he was not afraid of that. Some time after the Captain came upon deck, I repreſented the ſtate of the main top-maſt to him, and wiſhed him to order the lanyards of the weather ſhrouds to be eaſed off, and the lee ſhrouds to be ſet up, as it was then little wind, he anſwered by ſaying, he hoped it would do well enough as it was. I then ſaid, that the moment the wind came to be large, and they ſhould have occaſion to check the bowlines and lee braces, that inſtant the main top-maſt would be carried away. At 8 A. M. we went off the deck to breakfaſt, ſome time after the wind came large, the Officer of the watch ordered the bowlines and lee braces to be checked; and to round in the weather braces; that inſtant away went the main top maſt to windward, and broke in three pieces, which carried away the

the ſtarboard ſide of the main top, and broke both their main croſs-trees. There were ſix men in the main top, two of them were killed, and three much hurt, and the ſhip very much diſabled * by this accident, which any prudent ſeaman could have prevented. So much for ignorance, obſtinacy, and folly.

Main top-maſt curried away.

I have mentioned in my former publication of my Voyage to the Eaſt Indies, that the Elizabeth was in great diſtreſs, and loſt her rudder between Madagaſcar and Mozambique in very bad weather.

I there have only ſpoke of the ſhip's diſtreſs in general terms, as far as the navigating part in that account, but ſhall now give a more particular account of the diſtreſs of the ſaid ſhip, and how miraculouſly ſhe was ſaved from foundering in the ſtorm, and how ſhe was navigated to the Cape of Good Hope without a rudder, was ſteered by a machine inſtead of a rudder, with a deſcription of the ſaid machine, for the benefit of ſeamen in general, as there are very few inſtances of a foundering ſhip being ſaved, after the ſhip's company had given her up for loſt, which was the caſe of the Elizabeth.

As I am about to relate a very circumſtantial account of a ſhip's being in diſtreſs at ſea in a violent ſtorm, and ſo leaky that ſhe was in great danger of foundering, notwithſtanding the utmoſt endeavours of the crew to ſave her, and in the height of this diſtreſſed condition our trouble was much increaſed by the loſs of our rudder, which will be fully ſhewn in the following narrative of our proceedings.

When any ſudden accident or diſtreſs happens to a ſhip at ſea, which has often ſtruck her crew with ſuch panic as to occaſion them in many inſtances to act contrary to ſenſe and reaſon, and to take the worſt inſtead of the beſt means or method for their ſafety or relief, their minds being ſo agitated and diſcompoſed at ſuch times, that they readily give themſelves up for loſt, without ſeeking the proper remedy to extricate themſelves from the danger or difficulties that ſurround them, therefore the Commander and Officers of ſuch a ſhip ſhould maturely

A remark worthy of obſervation by Officers and Seamen when a ſhip happens to be in diſtreſs at ſea, or any ſudden accident happening to them.

* The ſhip was then upon a lee ſhore

maturely conſider this, and uſe their utmoſt endeavours, and do all that is thought poſſible to be of any ſervice to thoſe valuable ſet of men on ſuch melancholy occaſions, as far as circumſtances and ſituation can be deſcribed to happen in the ſituation they may then be in. It is at ſuch times as thoſe, as well as all other times, that Commanders and Officers ſhould endeavour to convince, and to be thought well of by the ſeamen under their command, whoſe good opinion of their ſuperiors will ever produce good effects, and indeed, I muſt ſay, it is ſo proper and political a ſyſtem in the actions of a man's life, that it ſhould ever be obſerved by thoſe who have many people under their command; and in the day of battle, diſtreſs or trouble, the Officer will find it his greateſt comfort; but the reverſe opinion of the men to their Officers will produce the contrary effect, and the worſt of evils may happen from it.

Some Remarks with reſpect of a Ship's Rigging, and the ſetting her Sails properly, &c.

The impropriety of putting thimbles inſtead of blocks, &c.

The remarks I am in this place to mention, are ſuch that will require the conſideration of a thinking man, or a man of ſedate thought, and as I am in a ſituation of life that I cannot but ſee how ſhips are rigged when fitted out for ſea, I ſhall beg leave to make the following remarks. Firſt, that blocks, hearts and dead eyes, are reckoned an eye ſore, and that by putting thimbles inſtead of them, makes the ſhip look much neater, and therefore are appropriated even to thingsof the greateſt conſequence, and require the greateſt and beſt ſecurity, viz. the bobſtays, bowſprit ſhrouds, and the ſpring or preventer ſtays of the lower maſts, and many other things of conſequence. To the derrick of the mizen yard, inſtead of a block on the yard, there is a thimble, the derrick is a running rope. The yard to be lowered down at ſea as occaſion may require to reef or ballance the mizen, and to be ſwayed up again, and this heavy purchaſe to go through a thimble inſtead of a block and in wet or bad weather, from the great ſtrain that is on the derrick, the rope muſt ſoon be chafed through and cut off in the wake of the thimble, which may produce very ſerious conſequences in the time of a ſtorm, eſpecially

eſpecially if the ſhip ſhould be entangled with the land, &c. &c. the bobſtays and bowſprit ſhrouds will be in the ſame predicament, and every thing elſe were iron and rope are connected in wet weather, and they at no time can be ſet properly tight with thimbles.

Again, the jib guys, being two on each ſide, one to the end of the jib boom, and the other to the jib traveller, inſtead of blocks on the ſpritſail yard arm for the ſaid guys to reeve through, there are thimbles put, and as it often happens that the jib is obliged to be carried under ſingle or double reeft topſails, the jib being a powerful ſail in blowing weather, is carried and ſet one third or one half of the boom out, at which times there is a great ſtrain on the jib guys, and if it happens to be wet weather, the guys ſoon chafe and are cut by the thimbles, they ſuddenly give way, which carries away the jib boom, with ſuch a jirk, that it has carried away or ſprung the fore topmaſt, by which the ſhip becomes truly diſabled. If this happens in the time of War, in chaſe of the Enemy, it is then really vexatious. Much more might be ſaid on the ſubject by putting thimbles inſtead of blocks, and I muſt beg leave to declare, that I do not think him that practiſes this method, either a Seaman, an Officer, or a judicious man, as his actions will call his judgment in queſtion with every reaſonable man.

The running rigging to be reeved properly, ſo that the ſails when ſet may ſtand fair.

Another new fangled method that is practiſed in our ſhip's without conſideration, is the reeving the rope ſo improperly as to prevent the ſails from ſtanding fair, which ſome men have not diſcernment enough to ſee, though a thing of the greateſt conſequence to the ſhip's ſailing faſt, and her working well, &c. of which I ſhall only mention a few particulars, and ſhall begin with the fore braces, which lead through blocks under the main top, and come down on the quarter deck; this is attended with great inconveniency to the main topſail ſtanding fair, either large, or upon a wind. When the fore braces are hauled tight, they keep the foot of the main topſail as high as the top brim, and prevents its ſtanding fair, which is a great diſadvantage to the ſhip, as ſhe has not the full weight and force of that ſail, and when the ſhip is

at ſea, and in continual motion, the foot rope of the main topſail is continually rubbing upon the fore braces, and in wet weather chafes the braces very much, but much more the foot rope of the ſail, as the friction in light winds and wet weather is in one particular part of the foot rope of the main topſail, which chaſes it very much, and in a ſhort time will cut it quite through; then away goes the main topſail all to pieces. This is well known to have happened.

Fore braces to lead fair.

When the fore braces are firſt led aft to come under the main top and to lead down on the quarter deck, for the better conveniency of working the ſhip, as it left leſs for the people to do on the main deck, whilſt the people on the quarter deck had little elſe to do, and in working the ſhip when they called to haul off all, the headyards were braced about more expeditiouſly than they could be if they led on the main deck, where there is ſo much to do; the fore tack to haul on board on one ſide, and the fore ſheet to haul aft on the other. This was looked upon to be a very good contrivance, and I can venture to ſay, I was the firſt man that led the fore braces on the quarter deck, though ſomething different to the manner they now go, viz. the ſtanding part of the brace was made faſt to the main ſtay, near the mouſe, the running part reeved through a block laſhed to the collar of the main ſtay, a little above the mouſe, and the end reeved through a block under the maintop, which was laſhed to the after croſs tree, and ſo down on the quarter deck on each ſide; theſe blocks, laſhed to the collar of the main ſtay, kept the fore braces clear of the foot rope of the main topſail, and it ſtood fair and clear of all ropes, and ſo it ſhould be now, if blocks were not an eye ſore.

Fore rop gallant braces to lead fair.

The next thing I ſhall mention is the main top gallant ſail, which is prevented from ſtanding properly by the foretop gallant braces, which ſome Genius, who thought himſelf very clever, had ſhivers put into the forepart of the truſſell trees at the main topmaſt head, for the foretop gallant braces to reeve through; or they had blocks laſhed to the croſs trees, or the maſt head for the ſaid braces, which keeps them ſo high

high as to be upon a line with the croſs trees, and keeps up the foot rope of the main top gallant ſail, and prevents its ſtanding fair, and therefore is detrimental to the ſhip's ſailing; the blocks for thoſe braces ſhould be laſhed below the mouſe of the main topmaſt ſtay, the foretop gallant braces would then be out of the way of the main top gallant ſail, and would not rub the foot rope to pieces as it now does.

Very good

Remarks on the mizen topſail and main topſail braces.

The next thing I ſhall mention is the mizen topſail, a ſail immediately under the Officer's eye, but notwithſtanding that, this ſail is more incommoded in ſtanding fair, than any other ſail, which I have had occaſion to take particular notice of, at the time the ſhips went to ſea, and ſaw the awkward manner this ſail was ſet, and found when the ſhips returned from ſea, it was ſtill the ſame, which much ſurprized me. The caſe is this, inſtead of long ſpans for the main topſail braces, with a block in each end of the ſpan, this ſpan went with a clove-hitch round the mizen maſt, below the hounds, the main topſail braces were reeved through the blocks in the ends of the ſpan, and the ſtanding part of the brace was made faſt to the ſaid ſpan, a ſmall diſtance from the block; this ſpan carried the main topſail braces well forward, clear of the mizen topſail, and it ſtood as fair as any other ſail. The new mode is now, though contrary to common ſenſe and reaſen, as follows: Two blocks are laſhed to the mizen maſt head, cloſe up under the mizen top, the main topſail braces are reeved through thoſe blocks, and the ſtanding part is brought back and made faſt to the mizen maſt, near to where the blocks are laſhed; when the topſails are hoiſted, the main topſail braces grow up againſt the forepart of the mizen top brim, which prevents the mizen topſail from ſtanding fair any time, even with a large wind, but upon a wind it renders the ſail entirely uſeleſs, nay worſe than uſeleſs, for half of the ſail, or all the weatherpart of it, when the weather brace of the main topſail yard is hauled tight, is an entire backſail, and is an impediment to the ſhip's ſailing; ſhe had better have no mizen topſail at all. Surely no man will venture to call this ſeamanſhip; I think

it quite the reverſe, though it is a thing I ſee daily done, and by people who think themſelves Officers.

The clew garnet blocks, why they ſhould be laſhed on the quarter of the yard.

I muſt here beg leave to ſpeak of another new faſhioned ridiculous piece of folly, practiſed by our *Jemmy Seamen*, which is as follows, in blocking the lower and topſail yards, the following rules and methods were formerly obſerved: the clew garnet blocks of the main and foreyards were laſhed on the quarter of the yard, to plumb a little without the gunwale when the yard was up, and the two buntline blocks equally divided in the ſpace between the clew garnet and jeer blocks, and the leechline blocks to be equally divided in the ſpace between the clew garnet blocks and the yard arm. This method of putting the blocks on the yard, divided the ſail properly, when it was hauled up, or when it hung in the brails, and alſo divided it properly for its being furled, &c.

A reaſon given.

A reaſon given why the clew garnet blocks ſhould be laſhed to plumb a little without the gunwale, as above-mentioned is, that when the clew garnet is let go, that the clew of the ſail which is very heavy with the tack, the knot of the tack, the ſheet and ſheet block, and the clew garnet block makes the clew of the ſail very heavy, and ſhould it fall within the gunwale, it might hurt whoever ſtood, or might happen to be in the way of it; and in the time of action, I have known it happen that the clew garnets have been ſhot away ſeveral times, and the clew of the ſail came down with great force, and would have been dangerous to any body that ſtood in its way.

Again, when you come to ſet the courſes, the main-ſail or fore-ſail, when the ſhip is upon a wind the clew garnets run clear, the weather clew of the ſail ready for getting the tack on board, and the lee clew falls without the ſhrouds clear of all the ratlings of the lee ſhrouds, and the ſheet is got aft without trouble, and expeditiouſly.

The preſent or new method of putting the clew garnet blocks on the yards.

The new method of putting the clew garnet blocks on the yards, is as follows, the clew garnet blocks are put upon the yard, within 5 or 6 feet of the jeer blocks, which is as wrong as wrong can be, for the following reaſon. Firſt, it carries or draws all the heavy or bulky part of the ſail into the bunt near the jeer blocks, the foot rope and clew rope

rope of the ſail which is both heavy and bulky, cannot be ſtowed properly or conveniently in this ſmall ſpace of 8 or 10 feet, and makes it impoſſible to furl the ſail with any degree of propriety or neatneſs to look at.

Again, the clew garnet blocks being ſo far in upon the yard, as before-mentioned, when the clew garnets are let go, the clew of the ſail is liable to fall upon the deck amongſt the people, and may hurt many of them, and if the ſail is to hang in the brails, it is not ſo well divided as with the clew garnet blocks on the quarter of the yard.

When you come to ſet the courſes at ſea upon a wind, the clew garnet blocks being ſo far in upon the yard that they are within the lee ſhrouds, and the clew garnet will not run down, the clew of the ſail, the knot of the tack, the ſheet block all being within the lee ſhrouds, they cannot haul the ſheet aft without great loſs of time, and are obliged to have men in the lee ſhrouds to bear the clew of the ſail, the knot of the tack and the ſheet block, clear of the ſhrouds and rattlings, which is attended with much trouble and loſs of time. So much for our new *Jemmy* mode of doing things unlike ſeamen.

The old method of putting the clew line blocks on the top-ſail yards, &c.

I ſhall now ſpeak of our old mode or method concerning the topſails. The old method of blocking the topſail yards was very proper, the clewline blocks were laſhed on the quarter of the yard, ſo as to be perpendicular, or to plumb the top brim, for the following reaſons; when you come to looſe the topſails at anchor with the wind a-head, and to haul home the ſheets; the knot of the ſheet and clew of the ſail is without the ſhrouds, ſo there is no impediment in hauling home the ſheets.

Again, when you come to looſe or ſet your topſails at ſea after a gale of wind, which requires it to be done briſkly, the lee ſheet to be firſt hauled home, the lee clew of the ſail and knot of the ſheet being without the ſhrouds, there is no impediment, to hauling home the ſheets expeditiouſly, and then the weather ſheet, &c. and the buntline blocks to be laſhed on the yard, about half way between the clewline block and the tye block on the yard; the blocks being thus placed,

divides

divides the ſail properly when clewed up, and particularly in blowing weather, when the ſail is reefed it makes the ſail haul up ſnug, and makes it more eaſy and convenient to be furled or handed.

The preſent method of putting on the clew line blocks improper.

The preſent finical mode uſed in theſe times concerning the topſails, is as follows, and is very improper, for the reaſons I ſhall give, viz. The clewline blocks, inſtead of being laſhed on the quarter of the yard, as mentioned in the old way, they are laſhed cloſe in within a foot or two of the tye block on the yard, which is wrong, for the following reaſons. Firſt, it carries or draws all the heavy and bulky part of the ſail into the bunt near the tye block. The foot and clew rope of the ſail, which is both heavy and bulky, cannot be ſtowed properly or conveniently in the ſmall ſpace of five or ſix ſeet, and makes it impoſſible to furl the ſail with any degree of propriety or neatneſs to look at, eſpecially if the ſail is to be furled in a bunt, which it ſhould be either at Sea or in a Road-Stead in blowing weather.

Again the clewline blocks are ſo far in upon the yard, as before-mentioned, there is this inconveniency attending it, viz. when a ſhip is at anchor, and is to be got under ſail in a freſh of wind, and the topſails are looſed to haul home the ſheets, the wind blowing ſtrong againſt the ſail, preſſes it againſt the ſhrouds ; the clew of the ſail and the knot of the topſail ſheet being ſo far within the ſhrouds, and preſſed with the ſail againſt them, that the men in the top cannot bear the clew of the ſail clear without much loſs of time, which is a very provoking circumſtance, and the like will happen at ſea when looſening the topſails after a ſtorm in hauling home the lee ſheet, the clewline blocks being ſo far in upon the yard and within the ſhrouds, when the lee clewline is let go, the clew of the ſail and knot of the ſheet gets foul of the topmaſt ſhrouds, and the men in the top are employed to bear themſelves clear with much loſs of time. This is a very unpleaſant circumſtance to a ſeaman, though perhaps none to thoſe *Finical Genius's* who made the alteration of placing the blocks in that inconſiſtent manner they now are, can properly account for it ; and it is totally impoſſible with any degree of propriety or neatneſs, or hardly with any degree of ſecurity

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to furl the ſail, being ſo improperly drawn together in the middle of the yard, that it makes it unpleaſant to look at, and the beſt ſeaman in the world cannot furl it to make it look better, or agreeable to the eye.

The ſiſter blocks inconſiſtent.

I muſt in this place take notice of another piece of new fangled folly, which is ridiculous in the extreme, and is very much unlike a ſeaman's contrivance, and yet it is a thing in general uſe, and was introduced into the ſervice ſome time ago by a ſomebody, that I am ſure was no ſeaman. The thing I am ſpeaking of, is called the ſiſter blocks, well known by that name, which is made of a piece of wood with two ſmall rollers, or ſhivers put into it, one under the other for the topſail lifts and reef tackle pendants to reeve through, there is a ſcore cut in each ſide of this piece of wood to take the topmaſt ſhrouds, and it is ſeized into the foremoſt pair of the topmaſt ſhrouds, on each ſide cloſe up under the topmaſt croſs-trees, for the before-mentioned purpoſe; the topſail lift, or top gallant ſheet, is reeved through the upper ſhiver of this piece of wood or block, which ſtands ſquare with the ſhrouds, and cannot move or turn at all. When the ſhip is going before the wind, with the yards ſquare, the top gallant ſheets may be got home well enough, but when the ſhip is upon a wind, it requires as many men to haul home the top gallant ſheets, as would haul home the top ſail ſheets; it being ſo dead a purchaſe, by reaſon the blocks cannot turn to make a purchaſe eaſy and convenient, and it is as much trouble to clew up the top gallant ſail, as it was to haul home the ſheets, and makes it both inconvenient and hazardous in ſqually weather, * and I have heard the common ſeamen ſpeak of the ſiſter blocks with great contempt, and in their way, have heartily *damned the Dog* that firſt contrived them, for that they had been the cauſe of carrying away many topmaſts, which was a good reaſon, they ſaid, why they diſliked them.

How to ſet the main-ſail to make it ſtand properly.

There is another thing I muſt here take notice of, which is, the main ſheet coming upon the quarter deck, which ſome of our *Muſhroom Seamen* ſeem fond of, and ſay they like to have the main ſheet under their own eye, without conſidering the inconveniency or impropriety of ſuch

* This is a thing that has been exploded by every ſeaman and Officer of common ſenſe.

ſuch a proceeding; Firſt, I ſhall beg leave to mention my own ideas of that meaſure, reſpecting the main ſheet, viz. When a ſhip is upon a wind, and there is a wiſh or neceſſity to make all the ſails when ſet, to anſwer the wiſhed for end, to make her go with great ſpeed through the ſea, either in purſuit of, or flying from the enemy, it is the ſeaman's buſineſs to ſee that all their ſails are ſet to the beſt advantage for the ſhip's ſailing with the greateſt ſpeed, and much depends upon the judgment of the ſeaman. In this caſe the main-ſail is the principal ſail to be conſidered, and how to ſet it fair, and make it ſtand properly, ſo as to be of real advantage to the ſhip in her ſailing, lies with the judgment of the experienced ſeaman, who knows when the ſhip is upon a wind, and the main tack is got cloſe aboard, that the bracing of the yard draws the lee yard arm downwards, which makes the lee leech of the main-ſail ſlack, therefore the lee clew of the main-ſail ſhould be kept as low down on the ſhip's quarter as poſſible, the eye bolt for the ſtanding part of the main ſheet ſhould be low, and the eye bolt for the main ſheet block ſhould alſo be low, and not to be above two feet higher than the ſtanding part, and then the ſheet to lead in upon the upper deck, under the quarter deck; this will keep the clew of the main-ſail well down, and will make the lee leech of the ſail ſtand tight and fair, for which I wiſh it to be underſtood, that it is the after and foot part of the ſail that gives the ſhip ſpeed through the water, and the main-ſail, if ſet, when a ſhip is upon a wind, has a wonderful and powerful effect on her ſailing faſt through the ſea.

The impropriety of ſetting the main-ſail according to the mode now in general uſe.

The modiſh, or unſeamanlike way of ſetting the main-ſail upon a wind and hauling aft the main ſheet, which I have frequently ſeen in Frigates, and ſometimes vainly attempted in two decked ſhips, to the diſgrace of thoſe that call themſelves ſeamen, and to their underſtanding. I have ſaid before, the main tack is got aboard, and the main yard is braced as before-mentioned, and the main ſheet hauled aft in the new mode, with the ſheet to come through a block fixed on the gunwale of the quarter deck, and the ſheet leading directly from the clew of the ſail to this block, which keeps the clew of the ſail ſo high as to make the lee leech of the ſail very ſlack, and to hang all in a bight, which makes the

the ſail continually flapping, and ſhews that the lee part of the ſail is of no uſe to the ſhip with reſpect of giving her way through the ſea ; but our new fangled ſeamen cannot ſee this, whereas if the lee clew of the main-ſail was to be kept 6, 7, or 8, feet lower down, the main-ſail then would ſtand fair with a tight after leech, which would give the ſhip ſpeed through the water, and make her feel her ſail, and would anſwer every good end and purpoſe when a ſhip is ſailing upon a wind, and it is wiſhed ſhe ſhould ſail as faſt as her ſails can make her.

One thing more, which is the laſt I ſhall mention in this place, it being the moſt extraordinary thing that ever entered in the Human mind, or into the minds of ſeamen, if they are allowed to be rational Beings. The thing I am going to ſpeak of, has ſo generally been adopted by them, that it almoſt excludes their being thought ſo, I mean the new faſhioned Driver, or more generally called the Spanker, it being the moſt extraordinary, inconſiſtent, diſproportioned, and uſeleſs ſail that ever was invented, by men of ſenſe or reaſon. I could give a thouſand reaſons why this ſail is uſeleſs and inconſiſtent with common ſenſe, and the ideas of a ſeaman. but it has been proved to be as good as a Brigs main ſail

The inconſiſtency of the new faſhioned driver, commonly called the Spanker.

In this place I ſhall only mention a few of its improprieties, it is large beyond all rule of proportion, ſo that neither the mizen maſt or the mizen yard are able to ſupport the ſail in a freſh of wind, and the great fore and aft boom which is made to ſpread the foot of this ſail, it being made like a one maſt ſloop's boom, and goes with a crutch to the mizen maſt, this being very long and heavy, and projects more than one third, or nearly half its length abaft, or without the ſhip's taff rail, which is a great weight to the after part of the ſhip in bad weather, as it is ſo high up and ſo far aft, that it muſt ſtrain her very much when this ſail is ſet, it being a fore and aft ſail cannot give the ſhip much ſpeed in her ſailing through the water, but muſt make her carry her helm very much a-weather, which impedes the ſhip's velocity through the water, and if a freſh of wind, the ſhip cannot bear this ſail ſet at all, then where is the utility or uſe of it ? And before the

The conſiſtency and propriety of the old faſhioned Driver.

wind it cannot be ſet, being a fore and aft ſail. So much for the new fangled idea of the Spanker, whereas the old faſhioned Driver, being a ſquare ſail, could be carried with propriety at any time, when the ſhip was going any way large, or from the wind, and as the wind came more aft, it being a ſquare ſail, it could be trimmed properly to the wind, and did not lay much ſtreſs upon the helm, and muſt add to the ſhip's ſpeed through the water, and when the wind came right aft, and the ſhip was ſailing before the wind, it could be properly trimmed to the wind, and carried with great propriety without interruption of the other ſails. Ships in general do not ſtand in need of much after ſail when it blows freſh with the wind on the quarter, eſpecially lofty ſhips, the heigth of their quarter being ſo high above the water, that the wind has great power on it, and makes them require but little after ſail; in this caſe, they ſtand but little in need of a Spanker, as this prepoſterous ſail is called, and let the expedient be tried, I am of opinion the ſhip will ſail faſter without than with it, notwithſtanding the general idea that people are run into with reſpect to this ſail, which ſhews that whim and fancy are more prevailing than ſenſe or reaſon, and that men in general are carried away more by the general opinion, than by their own, without making uſe of their own opinion at all, which I am ſorry to ſee, and by experience too well know; and according to the old ſaying in the Proverb. *If one ſheep runs through the hedge, all the reſt will follow*, ſo it ſeems to be with ſeamen, without their knowing why they do ſo, but becauſe ſuch an one did it, ſo will I.

The origin of the new faſhioned ſpanker driver.

I muſt here beg leave to relate a ſtory that I had in converſation with an Officer I was intimately acquainted with, who was a man of ſenſibility and goodneſs of heart, who is now no more, and whoſe death was a loſs to the ſervice. This Gentleman, who was both a Seaman and an Officer, had been preferred to the Command of a Sloop of War with three maſts in the Weſt Indies, who was a very bad ſailer, inſomuch that ſhe would neither ſail, wear, or ſteer. He had had the charge of ſeveral Convoys, and his greateſt trouble was to prevent his Convoy running from him, as his ſhip ſailed ſo badly, and detained all the ſhips in company, and amongſt

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the many bad qualities this ſhip had, one was, ſhe could not keep to the wind, and being an uncommon bad ſailer, ſhe was always the ſternmoſt and leewardmoſt ſhip in the fleet, though a Man of War. This circumſtance made this judicious Officer, contrive ſomething that he thought would make his ſhip more manageable, he accordingly contrived that kind of ſail, now called the Spanker, or Spanker Driver, which he ſaid made his ſhip keep better to the wind, but did not make her ſail a hair's breadth faſter. He came home from the Weſt Indies with this ſail to Spithead, I was then at Portſmouth; he ſaid it would ſurprize me to ſee it, and hoped it would be deſtroyed when the ſhip was paid off, for though he had contrived it through neceſſity, it was a thing he very much diſliked, and hoped it would never be introduced into the ſervice, though he ſaid he was afraid, ſome of our *new fangled People* would catch at it, which happened to be the caſe, and it was ſoon after introduced into the ſervice, prepoſterous as it was, to my great ſurprize, as well as to my friend the Captain's, who hoped that both his ſhip and the Spanker would have been deſtroyed as uſeleſs things.

Having dwelt long upon matters of this kind, and the reeving the running rigging fair and clear of the ſails, that they may ſtand fair without interruption; in order to make the ſhip ſail faſt, which ſhould be every Seaman's buſineſs to ſtudy; I ſhall now beg leave to mention a few things in the general way, as hints to keep ſeamen in the right method, and not to run into a thoughtleſs inconſiſtency becauſe others do ſo. I ſhall ever hold him the beſt Seaman and the beſt Officer, who rigs his ſhip for real ſervice with propriety, ſecurity, ſafety, eaſe, and conveniency, and to give up all ideas of neatneſs, when unaccompanied with thoſe things I have mentioned. He ſurely is the beſt man who can ſail, work, or manage his ſhip with the greateſt dexterity at all times, and with the feweſt men. He who can anſwer and obey a ſignal whilſt another man would be thinking of it, is ſurely the beſt Seaman and Officer; ſuch a man would do more with an hundred men, than another man would do with three times that number, becauſe his ſhip is properly and conveniently rigged for real ſervice, and can

worked with a few men, which a ſhip is ſome times reduced to by ſickneſs, or an action with the enemy, it is then the Seaman and Officer ſhines in his proper ſphere of life.

I would beg leave to aſk a Seaman a queſtion, which is, for whom he rigs his ſhip to be looked at, whether for landſmen, women, or children, or for thoſe who are no judges of a ſhip; if ſo, the ſhip may be rigged properly, or improperly, it is the ſame thing to thoſe kind of people, who are no judges of the matter; but the pride of a Seaman and an Officer, ſhould be to rig his ſhip fit for Seamen and Officers to look at, who are judges; if it meets with their approval, it muſt give him pleaſure to have the approbation of thoſe who are judges. A ſhip is not deſigned for a ſhow, but is the fineſt piece of machinery in the World, and is intended for real ſervice, as it may be juſtly ſaid, ſo is the Seaman and the Officer, who, with the ſhip, is deſigned to be of real ſervice to their country, in its protection and defence when called upon on the ſhorteſt notice, therefore the Officer and Ship ſhould ever be ready to perform the ſervice of the State when required. This will ſhew the good Officer and the Man of Merit in a true light.

A Narrative of the Diſtreſs of his Majeſty's Ship Elizabeth, in her Return from India to England, in the Year 1764, *with ſome General Remarks on a Paſſage from Bombay to the Cape of Good Hope, through the Inner Paſſage, or between Madagaſcar and the SE. part of the Coaſt of Africa.*

Having given a particular and circumſtantial account in my former publication, in our return from India, as far as relates to the navigating part. See page 109. I ſhall now proceed to give an account of the diſaſters that happened to the ſaid ſhip on our paſſage from India to the Cape of Good Hope, with a full deſcription of the diſtreſs we were in, and the method and means that were uſed to preſerve the ſaid ſhip, by which means the ſhip and mens lives were ſaved, by the good conduct of the Officers, and exertions of the ſhip's company, which

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tended greatly to their honor as Britiſh Seamen, and I hope will be thought an example well worth the imitation of Seamen in general.

We ſailed from Bombay in his Majeſty's ſhip Elizabeth, the 16th of December 1763, and ſteered along the Coaſt of Malabar, in ſoundings from 10 to 40 fathoms, having moderate land and ſea breezes, fair weather and ſmooth water. As I have given a very particular deſcription of this Coaſt in my former book. I ſhall therefore avoid ſaying any thing farther of it here, but only remark, that the winds hung more to the ſouthward than I ever knew them, blowing moſtly from ESE. to ſouth SW. or WSW. very uncommon winds on this coaſt in December. On the 30th we joined Admiral Corniſh, in his Majeſty's ſhip Norfolk, in company with his Majeſty's ſhips America and Chatham off Callicut, from whence we took our departure, allowing its latitude 11° 21′N. and longitude 75° 30′E. from London, and ſailed through the Nine Degree Channel with moderate winds in the NE. quarter. From this time to the 31ſt of January 1764, nothing happened material, having had pleaſant weather and fair winds during that time.

The 31ſt January 1764, being in latitude 20° 46′S. longitude made from Moſambique, 2° 11′W. it bearing N20°E. diſtance 122 leagues, in company with the ſhips as before-mentioned; from noon to midnight had freſh gales from NbE. round by the eaſt to SE. with rain and thick hazy weather, and a large ſea from the NNE. and alſo a large ſea from the SE. which thwarted the NE. ſea, and made it run very high, which occaſioned the ſhip to labour very much, and ſtrained her, and made her make much water. At one AM. came on a hard gale of wind at SE. with much rain, ſqualls and thick hazy weather. One of the main topſail ſheets gave way, which occaſioned the ſail to ſplit, and it blew all away from the yard; in ſecond reef of the fore topſail and handed it, lowered down the mizen yard, reefed and balanced the mizen, and reeft the mainſail, the ſhip going under the foreſail and mizen ſtay-ſail; got down the top gallant maſts and mizen topſail yard, and ſtruck the mizen topmaſt, hauled up the foreſail and reeft it, and lay the ſhip too under a reeft and ballanced mizen and mizen ſtayſail.

A great ſea from the NNE. and alſo a large ſea from the SE. which thwarted the NE. ſea and made the ſea run very high this was a plain indication that the wind would be in the SE quarter and that there would be a ſtorm that way.

At

At noon this day had very hard gales, with much rain and hazy weather, with a great ſea from the SE. and violent hard ſqualls, the ſhip ſtrained and opened much in her upper works, and made ſo much water that ſhe gained upon us with all the chain pumps conſtantly going, and baleing at the fore hatch way with buckets. No ſhip in ſight but the Chatham.

Wind SE.

Winds from S. to SbE.

The 1ſt of February 1764, very hard gales of wind and dark cloudy hazy weather, with rain and violent hard ſqualls, and a great ſea from the SE. At PM. the ſhip ſtrained and laboured ſo much, that all the brick-work of the coppers and grates fell down; got in the jib boom and ſpritſail yard, handed the courſes and lowered down the main yard, and hove four of our upper deck guns overboard to eaſe the ſhip. We had no lower deck guns on board, and but eight on each ſide mounted on the upper deck. At 8 PM all the chain pumps conſtantly going, and baleing with buckets at all the hatchways; ſometimes the water gained on the pumps, notwithſtanding our utmoſt endeavours. At 12 PM. or midnight found the water gained on the pumps, the ſhip having 6 feet eight inches of water in the hold, and the water ſtill gaining on the pumps. It was by a conſultation of the Captain and Officers, as our laſt reſult, or in other words, our laſt ſhift, (the ſhip rolling and labouring ſo much when lying too and making ſo much water as to gain one foot in half an hour which greatly diſmayed the ſhip's company) * agreed to wear the ſhip, and ſcud under the gooſewing of the foreſail, on the other tack, to keep the wind on the ſtarboard quarter, in order to bring the ſtarboard

* What I am going to mention in this note may ſurprize the reader, but hope it may be of uſe to ſeamen hereafter, who may happen in their courſe of ſervice to be in a ſimilar diſtreſſed ſituation, which I pray God forbid its happening to them as it did to us. It gave us great pain, trouble, and anxiety, to ſee ſo many ſouls in ſuch great diſtreſs.

The Carpenter of the ſhip, at 11 P. M. came upon the quarter-deck, and declared that the water in the hold had gained a foot upon the pumps in the laſt half hour (having at that time 6 feet 8 inches water in the hold), which greatly alarmed every body. I adviſed the Captain to call a conſultation of the Officers, which was accordingly done, each of whoſe opinions was aſked with reſpect to the diſtreſſed condition of the ſhip, and what was beſt to be done. Some were for cutting away the maſts, others for cutting away the anchors, which they ſaid was a great weight

ſtarboard ſide which had been the lee ſide, as much out of the water as poſſible, by which means, and the ſhip having freſh way through the ſea, we were in hopes ſhe would make leſs water. We accordingly wore

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weight to the bows, and would eaſe the ſhip, and make her ſtrain leſs in her upper works; and ſome were of opinion that nothing could be done which could prevent the ſhip from foundering; which opinion was too generally received and adopted. Whilſt this Conſultation of the Officers held, the people gave themſelves up for loſt, and betook themſelves to prayers, neglecting their duty, and reſigned themſelves to their fate, without uſing any further endeavours to preſerve their lives. The Author's opinion, given at the Conſultation of the Officers, was as follows, *viz.* I ſaid, to cut away the maſts would be an act of madneſs and folly, for the following reaſons: Firſt, if the maſts were cut away, it would make the ſhip lighter in the water; the lighter the ſhip was made the more ſhe would roll and labour: and, Secondly, if the maſts were cut away in ſo great a ſea, there would be danger of their going through the ſhip's bottom, as ſhe was ſo old, rotten, aad crazy: and, Thirdly, as the ſhip was in ſo ſhattered a condition, the maſts were the only things to be preſerved to run us to land, which we were not far from, in order to ſave our lives; and as to cutting away the anchors, I was alſo averſe to that, for the following reaſons: Firſt, if the ſhip ſhould run for, or fall in with, an unfavourable part of the land, where there was apparent danger at a great diſtance from the ſhore, and we could not ſhun the danger but by anchoring, the anchors then would be of uſe; and, Secondly, if we ſhould happen to fall in with a convenient place of ſafety, the anchors would be of uſe for us to anchor until we could refit the ſhip, and prepare her to proceed to the Cape of Good Hope; and, Thirdly, that the anchors were of uſe to the ſhip even in the ſhattered condition ſhe was in; that by frapping the anchors acroſs the forecaſtle to each other, and by ſlacking the ſtoppers and ſhank painters, the weight of the anchors would be like a frapping to keep the ſhips bows together; and the only thing that I could ſee to be done, as the ſhip was to all appearance foundering in the ſituation ſhe was then in, in lying to under a reefed and balanced mizen on the larboard tack, was to try to wear the ſhip, and to ſcud under the gooſe wing of the foreſail, and to keep the wind on the ſtarboard quarter. As that had been the lee ſide, we might by that means keep ſome of the leaks out of the water, and that the ſhip might not make ſo much water when ſhe had freſh way through the water as when lying too, and by that means we might be able to keep the water from gaining on the pumps; ſhould that be the caſe, we ſhould have ſome hopes, if not, there were little hopes indeed. All my propoſals were agreed to, and we went about to prepare to wear the ſhip.

But, O God! how was I ſhocked, when looking round me I ſaw all the people on their knees at prayers, having given themſelves up for loſt. I ordered every thing to be got ready to wear the ſhip—not a man moved;—I went upon the forecaſtle, where all the beſt men in the ſhip were aſſembled, where I found every man on his knees at prayers: being midnight and dark, I could not diſtinguiſh one man from another. I ſpoke, but no one anſwered; I called the Captains of the Fore-caſtle by their names—no anſwer. I muſt confeſs, it was a ſerious and melancholy

wore ſhip at 12 PM. and ſcudded under the gooſe wing of the foreſail, by hauling aft the larboard ſheet only, in order to eaſe the ſhip from rolling and labouring ſo much, found by ſcudding the ſhip did not make ſo much water as in lying too. At 4 AM. the ſame wind and weather,

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choly ſcene; and as it pleaſed God to give me courage and reſolution, and bleſſed me with hopes that we might weather out the ſtorm and get the better of our diſtreſs, I muſt here confeſs, I made uſe of language very foreign to my heart at that time, by ſwearing at them, and ſaying where are you all got to. The Captains of the Fore-caſtle anſwered in a low tone of voice, here we are, Sir. I went to the place where they were, and expoſtulated with them as follows: What are you about? at prayers ſir, it is all over with us. I anſwered, it is likely to be ſo, if you will not uſe your endeavours to ſave your lives. Where is all your courage and reſolution gone? I have ſeen you act like men in time of battle, I have ſeen you undaunted and brave in the greateſt danger, and act with intrepidity, ſo that no danger could terrify you. Does death appear more terrible now than in the day of battle? I really am aſhamed for you, rouſe yourſelves, act like men, uſe your endeavours, do your part, God will certainly do his part, have not I a life to looſe as well as you, you do not ſee me caſt down as you are. At theſe words they all got up on their legs, and ſaid, tell us ſir, what we are to do, and we will obey your orders. I confeſs I was never better pleaſed then I was with the anſwer the people gave me, I then ſaid, you now act like brave ſeamen, as I always found you in every time of trial; and told them I was going to wear the ſhip, and ſcud under the gooſe-wing of the foreſail, and was in hopes we ſhould be able to keep the water from gaining on the pumps; therefore they muſt prepare every thing for wearing the ſhip, and at the ſame time to let ſome of the people be employed in frapping the anchors with a hauſer that was then on the fore-caſtle, to each other, the frapping or hanging to go acroſs the forecaſtle, round each of the anchors, and when that was done to let go the ſtoppers and ſhank painter, and let the anchors entirelely hang by the frapping, which would be like a frapping, to keep the ſhip's bows together, which at that time worked very much; This idea the people very much approved of, and ſet immediately about to do it, and when done, they ſaw the utility of it. We wore the ſhip at 12 PM. and ſcudded under the gooſe-wing of the fore-ſail, and found the ſhip did not make ſo much water as ſhe had done when lying too; but never the leſs, with all our utmoſt endeavours, and all the chain-pumps conſtantly going, and baleing at all the hatchways, we could but juſt keep the ſhip free; or in other words, could but juſt keep the water from gaining on the pumps. I muſt here do the ſhip's company ſo much juſtice, as to ſay, from the time we rouſed them from their fears that had overcome them, they never flinched afterwards, although we were many days afterwards in the utmoſt diſtreſs, and the people and Officers were wore out with fatigue, trouble and anxiety, yet they never flinched nor murmured in the leaſt; to their credit, I with pleaſure ſay it, and I hope all other brave and honeſt ſeamen will follow their example under ſuch trying circumſtances. I muſt here obſerve, our ſhip's diſtreſs was but beginning. What made it more diſheartning to the people was, there was no ſhip in ſight; which they often repeated.

T. Luny, del.

R. Pollard, sculp.

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weather with a very great ſea, the people employed pumping with all the pumps, and baleing at all the hatchways, and with great difficulty could but juſt keep the water from gaining upon the pumps. At 6 AM. hauled our wind, and ſet the reeft fore-ſail and mizen, main and mizen ſtay ſails. At noon this day very ſtrong gales of wind and cloudy hazy weather, with a very high lofty hollow ſea, the ſhip ſtrained and opened very much in her upper works, and made ſo much water, that all the four chain pumps were conſtantly employed, and the people baleing at all the hatchways, could but juſt keep the ſhip free. No ſhip in ſight. No obſervation. Latitude in ℔ account, 19° 52′S. longitude made from Mozambique, 2° 17′W. and it bore by our reckoning N24′E. diſtance 106 leagues.

The 2d February, 1764, we had ſtrong gales with cloudy hazy weather, frequent hard ſqualls with rain, and a great ſea from the SSE. the ſhip ſtrained and opened in her upper works, as before-mentioned. In PM. got down the main top-ſail yard, and ſtruck the main top-maſt, in order to eaſe the ſhip's upper works. At 9 PM. the ſhip rolled and laboured very much, the tiller broke in the rudder head, we ſhipped another tiller immediately. At 6 AM. ſaw a ſail on our weather quarter, bearing SWbW. the weather more moderate, ſet the double reeft fore top-ſail, and wore ſhip to the weſtward. At 9 AM. made the ſhip we ſaw in the morning, ſhe proved to be his Majeſty's ſhip the America, ſhe bore SW. diſtance 4 or 5 miles. AM. employed in unrigging the main and mizen top-maſts, in order to get them down upon deck to eaſe the ſhip's upper works. At 11 AM. wore ſhip and ſtood to the eaſtward, in third reef of the fore top-ſail and handed it, got the main and mizen top-maſts down upon deck, got in the jib boom and ſprit ſail yard upon deck, to eaſe the ſhip's bows and upper works, which ſtrained and worked very much. At noon very freſh gales and cloudy hazy uncertain weather, with a great ſea from the SSE. the America in ſight, bearing SSE. all the pumps conſtantly going, and could but juſt keep the ſhip free. No obſervation. Latitude in, by account,

Winds from S. to SWbS.

account 19° 8′S. Longitude made from Mozambique 1° 55′W. it bearing by our reckoning N24°E. diſtance 89 leagues.

Winds from SSW. to WSW.

The 3d Feb. 1764, very freſh gales of wind and thick, cloudy, uncertain weather, with heavy ſqualls and rain, and a great ſea from the SSE. At 2 P. M. the tiller broke in the rudder head ; * immediately chocked the rudder in order to fix another tiller. Whilſt this was doing, I apprehended there was ſomething more than common the matter with the rudder, I took the Carpenter of the ſhip with me down to the gun room, and watched a favorable opportunity, when the ſea was ſmooth and the ſhip moſt quiet, to open the weather gun room port with caution, as the ſea was high, we did ſo, and then ſaw that the upper pintle iron of the rudder was broke, and alſo the upper gudgeon at the upper part of the ſternpoſt was broke in the neck, and that ſeveral of the pintle irons and braces or gudgeons were looſe and that the ſecond brace or gudgeon iron was entirely looſe, and come off from the ſtern poſt, and the nails were entirely come out of the planks of the ſhip's buttocks, and the next brace or gudgeon below that, being the third from upwards, was ſtarted off from the planks of the buttocks, and the greateſt part of the nails were partly worked out, ſome of them were worked out half their length, ſo that in a ſhort time it muſt have come off from the ſtern poſt. We were apprehenſive that the rudder would have torn all the rudder irons or braces off the ſhip's ſtern poſt, which would have increaſed her leak to ſuch a degree that the pumps could not have kept the ſhip free ; it was therefore agreed to unhang the rudder and let it go. A ½ paſt 2 P. M. made the ſignal of diſtreſs to the America, which ſhe obſerved, and bore down to us, and at the ſame time unhung the rudder and cut it away, to prevent its doing any further damage. After the rudder was gone, we could hear the water running in through the nail holes of the ſecond brace or gudgeon iron, which, ſince the rudder was cut away was entirely gone off the ſtern poſt, this occaſioned a leak in the bread room, and had damaged a great quantity of bread ; but notwithſtanding that, we kept the ſhip free

Loſt our rudder.

* This was the ſecond time the tiller had broke in the rudder head.

free by working two chain pumps only. At 6 A. M. got down the fore top-ſail yard and ſtruck the fore top-maſt, and got it down upon deck, in order to get up a jury fore top-maſt. The people employed making a machine to ſteer the ſhip by inſtead of a rudder, and in frapping the ſhip in ſeveral places, in order to ſuccour the ſhip's ſides and upper works, and to prevent their working and opening in the manner they did; got up the mizen top-maſt for a jury main top-maſt; this we did to eaſe the ſhip's upper works, and put up on the frapping to keep the ſhip together, for during the gale of wind they ſtrained and opened in a ſurprizing manner, found many of the chain bolts ſtarted 2 or 3 inches, and a great many of the tree nails in the ſhip's bows; and upper works ſome of them worked one, two, or three, inches inwards, and others worked as much without the ſhip's ſide, all the butts of the wales and upper works by the motion of the ſhip were 2 or 3 inches open, and the planks of the deck worked in a ſurprizing manner, ſeveral of them by the working of the ſhip did riſe the whole thickneſs of the plank above the deck, and ſunk down again with the motion of the ſhip, ſome drew the nails up with them, and ſome drawing the heads of the nails through them, which made it very dangerous to walk or ſtand upon deck. In wet weather the people could not lie in their hammocks and the toes of the ſtandards with the ſhip's rolling would lift off from the deck, ſome of them 4, 5, or 6 inches, and the gunwale and the ſtreak below the gunwale was quite broke off at the gangway port; quite down to the upper deck. In ſhort, the ſhip was an entire wreck. At noon this day, freſh gales and hazy weather, the ſea a little abated, we kept the ſhip free with two chain pumps only, the ſhip lying too under her mizen, mizen ſtay-ſail and main ſtay-ſail, had an obſervation, latitude 19° 52′S. longitude made from Mozambique, 1°1′W. It bore by our reckoning N12°E. diſtance 98 leagues. The America in company *.

* I muſt here obſerve, that one particular cauſe of our diſtreſs was occaſioned by the braces of the rudder, or the gudgeon irons coming off the ſtern-poſt, which was occaſioned by the ſame

Winds from WbS. SW. and WSW.

The 4th of February 1764, freſh gales with a great ſea from the ſouthward, the people employed in making a machine to ſteer the ſhip by,

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ſame irons being faſtened or nailed to the ſhip's ſtern or buttocks; in the ſpace between two tranſoms; by which means the nails that were drove to ſecure the ſaid braces or rudder irons were drove only through the planks of the ſhip's buttocks, inſtead of their being nailed upon a tranſom, which they ſhould have been, by which means the braces or gudgeon irons came off, and the nails drawing out of the planks, being many in number, left each of them a hole as big as a man's finger, through which the water guſhed in with great force, which filled the bread-room with water, and damaged all our bread, and there being no water courſe for the water to run forwards to the hold, and thence to the pumps. On this account we were obliged to clear the bread-room of all the bread, in order to ſcuttle the bulkhead of the bread-room, and alſo to ſcuttle the bulkhead of the after magazine, and the bulkheads of the fiſh-room, and ſpirit-room, to let the water run into the hold, and ſo to the pumps. This occaſioned a great deal of trouble and loſs of time, in the diſtreſſed condition our ſhip was in, but we were under the neceſſity of doing it to preſerve the ſhip from foundering, for this leak being added to our former leaks, when we could but juſt keep the ſhip free with all the four chain-pumps and baleing at all the hatchways, was truely diſtreſſing, and greatly allarmed and diſmayed the ſhip's company; but while we were clearing the bread-room, we had the preſence of mind to look into the lady's hole, † where we ſaw the water guſhing in through the nail-holes of the braces or rudder irons that were gone off the ſtern-poſt and buttocks, like ſo many fountains, and as the braces had been nailed between two tranſoms and went only through the planks, we could come to ſpoil them up, which proved a great relief to us in our great diſtreſs.

Obſervation.

Is it not a pity, or in other words, is it not a ſhame, that the fixing of the rudder-braces or gudgeon-irons ſhould be ſo little attended to, as to be nailed between two tranſoms, and the nails to go only through the planks, when care ſhould be taken to nail them on a tranſom, where the nails would have proper faſtening to hold them ſecure; but uniformity is only conſidered by thoſe *Men of Genius*, our *Ship Conſtructors*, and the rudder braces are to be placed at equal diſtances from each other, without conſidering whether they will nail on a tranſom, or if they will be properly ſecured or not, ſo that they are according to uniformity at equal diſtance from each other. This is the utmoſt of their wiſe conſideration. I have been in two ſhips that have loſt their rudders at ſea, viz. the Grafton loſt her rudder in a ſtorm off Louiſburg in the year 1757, and the Elizabeth between Mozambique and Madagaſcar, in the year 1764, and in both ſhips the rudder-braces or gudgeon-irons were put on as I have mentioned, nailed on between the tranſoms, the nails only drove through the planks.

I muſt here beg leave to mention a third ſhip that I belonged to, viz. the Yarmouth, who was then in dock, I was mentioning the circumſtances of looſing our rudders in the Grafton and Elizabeth, which was principally occaſioned by the rudder-braces being nailed between two

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† Lady's Hole, a part of the ſhip ſo called, parted off by a bulkhead between the bread-room and the tranſoms, for the uſe of the gunner, wherein he keeps ſmall ſtores.

by, and in frapping the ſhip in ſeveral places, in order to ſuccour the upperworks, which ſtill ſtrained and opened very much, though the weather

two tranſoms, the nails going throuh the planks only, inſtead of their being nailed or faſtened to a tranſom; the gentlemen of the ſhipwright line expreſſed great ſurprize, and as good as ſaid it could not be, for that particular care was always taken to ſecure the braces of the rudder, on the tranſoms. I aſked them, if they were ſure the Yarmouth's † braces were faſtened on the tranſoms? They anſwered, they were poſſitively ſure it was ſo. It ſo happened that ſeveral planks of the buttocks were found defective, and were obliged to be ſhifted, which led to a diſcovery, juſt as I had mentioned, that the braces of the rudder were faſtened on between the tranſoms, the nails only going through the planks of the buttocks, in the ſame manner that the Grafton and Elizabeth had been. This was a fortunate circumſtance to me, and it ſilenced them, and made theſe *mighty Infallible Artificers* ſubmit to truth againſt their will, and they ſtood convicted in the eyes of many ſpectators, to their great confuſion. And another thing I would have had them to do, which in my opinion was very neceſſary to be done, was to make a watercourſe from the bread-room through the after magazine, and through the fiſh-room and ſpirit-room, into the afterhold, for the water to come to the pumps, if at any time a ſhip ſhould ſpring a leak in the bread-room, as we did in the Grafton and Elizabeth, which might prevent ſpoiling all the bread, and ſave great trouble and would prevent dangerous conſequences, when any ſuch accident might happen, to ſhips in future, but all I could ſay, could not gain upon them to perform ſo reaſonable and ſo uſeful a thing to be done.

By which it may ſeem that thoſe illiberal ſet of men, through their want of experience and knowledge, they never having been at ſea, cannot know how a ſhip acts at ſea, when under ſail in rough weather, and more particularly in a ſtorm, is what thay cannot be allowed to know any thing of, and their confined ideas and illiberal ſentiments, will not allow them to believe what is told them by ſeamen, who know by experience how a ſhip acts at ſea, in every kind of weather, and could give them ſuch information as they might improve upon, which might become of great advantage to the ſervice and the community at large; but their ſtrong prejudices and ſelf opinion, will not let them be turned out of their old way, and ſo they continue ſtill in error, to the great detriment of the ſervice.

I have mentioned, in the account of the loſs of the rudder of the ſhips I was in, that the iron ſtrap that is put on the back of the rudder, for the chain pendant of the rudder tackles to be faſtened to, whenever the rudder tackles are made uſe of to ſteer the ſhip, when it happens the teller may have broke in the rudder head, &c. I have ſaid we found the ſaid ſtrap came off the back of the rudder, which greatly increaſed our diſtreſs, and I have known the like happen in other ſhips in ſeveral inſtances, which led me to contrive a far better and more

A better method contrived to ſecure the rudder pendants.

† The ſhip Yarmouth, which I here alluded to, was fitted up by theſe Gentlemen, and had then juſt undergone a thorough repair.

weather is much abated, got up a main top gallant maſt, for a jury mizen topmaſt, and bent the proper mizen topſail, for a croſs jack, and ſet the ſail. AM. ſwayed up the ſore and main yard, and let out the reefs of the courſes, unballanced the mizen, let out the reefs and ſwayed up the yard, got up a ſpare mizen topmaſt for a jury fore topmaſt, and a jury main and mizen topſail yard, and bent the mizen topſail for a main topſail, and a main top gallant ſail for a mizen topſail. The ſhip is kept free theſe 24 hours by conſtantly working two chain-pumps. At noon freſh gales and clear weather, the ſea ſmoother than yeſterday. The ſail the ſhip is under; The foreſail, and mizen, croſs jack, main and mizen ſtay-ſails; had an obſervation, found a ſouth current, latitude in 20° 4′ S, longitude made from Mozambique, 0° 31′ W, it bearing N 6° E, diſtant 100 leagues. The America in Company.

Winds WSW. to SW.

The 5th of February 1764, freſh gales and cloudy, with uncertain weather, with ſqualls and ſome rain, and a large ſwell from the ſouthward. PM. the people employed in frapping the ſhip, and making a machine to ſteer the ſhip by. AM. got up a jury fore topſail yard,

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more ſecure method of ſecuring the rudder pendants, which I found by experience to anſwer my wiſh, and every end and purpoſe being entirely ſecure, which is as follows.

To have two ſtout ring bolts, one to be drove through the broadſide of the rudder, on each ſide of it, and well ſecured, the eye of the ring bolt to be the fore and aft way, or horizontal; for the reaſons I ſhall now mention. When a ring bolt that has a great ſtrain on it; if the ring comes properly on the ſide of the eye of the bolt, it will bear a great ſtrain, but if the ring comes upon the top of the eye of the bolt, it lays a very great ſtrain on the bolt, and I have known it to break in ſeveral inſtances; when theſe bolts are drove and well ſecured, then faſten the rudder pendants to them, and croſs the pendants at the back of the rudder; that which is faſtened to the bolt on the ſtarboard ſide of the rudder, to come on the larboard quarter, and that which is faſtened on the larboard ſide to come on the ſtarboard quarter, and a ſmall eye bolt to be drove in the back part of the rudder, to keep up the chain of the rudder pendants upon a line with the ring-bolts they are faſtened to, and the ſaid pendants to be triced up to the Ship's ſtern and quarters, as is uſually done. This method of ſecuring the rudder pendants, is by far more ſafe and ſecure than the preſent way of faſtening them to the ſtrap put on the back of the rudder, and this ſecurity may be relied on, whenever the rudder-tackles may happen to come in uſe. We by experience found it ſo, and as ſuch I beg leave to recommend it.

yard, and ſet the jury main topſail ſingle reefed. We find a conſtant leak in the ſhip's ſtern-poſt and buttocks, occaſioned by the rudder's carrying away two braces or gudgeon irons, viz. the 2d and 3d from upwards off from the ſtern-poſt and buttocks, the nail-holes of the ſame braces make ſo much water, that it runs into the bread-room, and has damaged a great part of the bread. At noon ſet the jury fore topſail; people employed in making a machine to ſteer the ſhip by, and in frapping the ſhip; two chain pumps conſtantly going, has kept the ſhip free theſe 24 hours; found a ſtrong ſoutherly current, had an obſervation, latitude 20° 20′ S, longitude made from Mozambique, 0° 4′E, it bearing N 105 leagues. The ſail the ſhip is under, fore and main topſail, foreſail, mizen, croſs jack, mizen and main ſtay ſails, ſtanding to the SEward. The America in company.

The 6th of February 1764, freſh gales and hazy weather, with a large ſwell from the ſouthward. In PM. the people employed as before, in making a machine to ſteer the ſhip by, in frapping the ſhip and making jury ſails, the ſail the ſhip has ſet upon her, lying too under a forefail, mizen and main topſail, and mizen ſtayſail; the ſhip is kept free with two chain pumps conſtantly going, people employed in frapping the ſhip forward about the bows, where ſhe ſtrains and opens very much; had an obſervation, found a ſoutherly current, latitude in 20° 42′S. longitude made from Moſambique, 34′E. it bearing N 5° W. diſtance 114 leagues; the ſhip's head the SEaſtward. The America in company. Winds from WbS. to SbW.

The 7th of February 1764. moderate and fair weather, with a ſwell from the ſouthward, the people employed in making a machine to ſteer the ſhip by, and in frapping the ſhip in different parts, particularly forward, to ſuccour the cutwater. The Carpenters employed in caulking in the lower deck ports, two chain pumps conſtantly going, keeps the ſhip free; had an obſervation, found the ſhip 48 miles to the ſouthward of the reckoning, ſuppoſed a ſouth current, latitude in 21° 6′S. longitude made from Moſambique, 1° 3′E. it bearing N 9° W, diſtance 122 leagues; the ſhip laid too all theſe 24 hours under a foreſail, mizen, and main topſail Winds from SbW. to SSW.

topſail, mizen, and main ſtayſail, with her head to SE. The America in company.

Winds from SSW. to SbE.

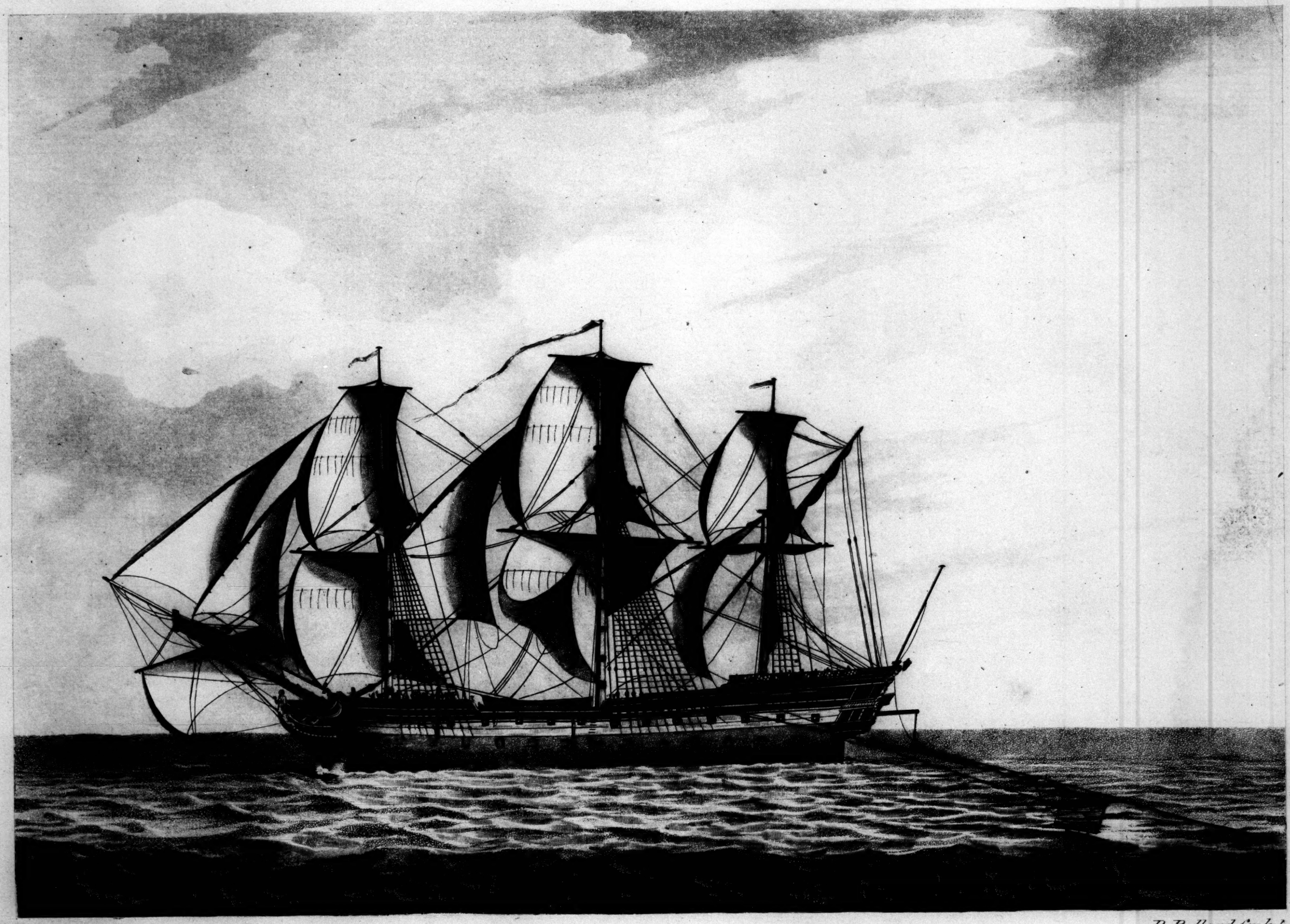
The 8th of February 1764, the firſt and middle parts moderate and fair weather, the latter freſh gales and clear weather, with a ſwell from the ſouthward. In PM. all hands employed in fixing and compleating every thing to the machine, in order to get it overboard to ſteer the ſhip by. At 3 PM. compleated the machine and got it overboard into the water, and hung it to the ſhip's ſtern in the proper place. This machine is to ſupply the place of the rudder. At half paſt 6, made ſail and wore ſhip to the weſtward with the machine, which ſeems to anſwer very well, ſtood to the weſtward all night with the wind at ſouth and SbW. and continued ſo till next day at noon, when we had freſh gales and clear weather, with a ſwell from the ſouthward; had an obſervation, kept the ſhip free with two chain pumps conſtantly going; we have now 11 laſhings or frappings on the ſhip's upper works, to keep her together and prevent her parting a-ſunder, ſo much ſhattered is the ſhip at this time. * Found by obſervation, the ſhip 31 miles to the ſouthward of the reckoning, ſuppoſed a ſouth current, latitude in, 21° 45′S. and longitude made from Moſambique, 35′E. it bearing north 4°W. diſtance 135 leagues. The America in company. The wind SbW. the ſhip lyes up WbS. ſtanding to the weſtward on the larboard tack; ſails ſet on the ſhip, the three courſes, the three jury topſails reefed, and ſtay ſails; the ſhip ſteers very well with the machine.

The

The method they uſe in frapping the ſhip to keep her together.

* The ſhip had 11 frappings put upon her in different places, viz. two under the quarter deck, one over the main hatchway, one over the fore hatchway, and one at the bulk head of the Fore-caſtle, and one under the Fore-caſtle; thoſe ſix laſhings or frappings were upon the upper deck, and were kept cloſe down to the cells of the upper deck ports, as they could be, the ſaid frappings were hawſers, which were paſſed through two ports on each ſide, being bouſed as tight as poſſible; as the turns were paſſed, there were then croſs turns paſſed the fore and aft way, and a capſton bar put in by way of a leaver, which being well manned and turned round,

will



T. Luny. del.

R. Pollard. sculp.

The ELIZABETH. Vide Page 228.

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A Deſcription of the Machine that we made to ſteer the Ship by, inſtead of a Rudder, which we compleated in four days, and ſteered the Ship by it. This Machine carried the Ship ſafe to the Cape of Good Hope, and was made in the following manner.

A deſcription of the machine made for ſteering the ſhip.

We took a ſpare fore top-maſt and ſawed it in two, lengthways, from head to heel, intended the heel to be the outermoſt part of the machine; this is the main piece of the machine; we then got a 3 inch oak plank, ſawed it into lengths of 12 feet, which was the depth of the key part of the machine; we will call it ſo, as it reſembled a key when it was made. We then put as many breadths of the ſaid 3 inch plank, as made the key part 14 feet long, the heel of the topmaſt

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will heave the frapping as tight as poſſible, and when hove tight enough, the capſton bar or leaver to be made ſecurely faſt, this we found to be of great ſervice to the ſhip, as it bound her quite tight together, and prevented her from working, opening, or ſtraining, ſo much as ſhe had done before. One frapping was round the cutwater, being a piece of the ſtream cable, both ends came in at the head doors on each ſide, on which was ſeized an heart or dead eye, and was hove well tight to the fore-ſail ſheet bitts, under the forecaſtle.

The manner of frapping the ſhip between decks.

There were two frappings on the quarter deck, and two on the forecaſtle, paſſed and hove tight in the ſame manner with a leaver as thoſe on the main and upper deck were: beſides thoſe eleven frappings before-mentioned, we had 6 other frappings between decks, which were put too in the following manner, viz. theſe frappings were put through the ring bolts that were on each ſide of the lower deck ports, to where the gun breechings are ſecured, and were frapped with croſs turns in the fore and aft way, and capſton bars, put in by way of a lever, and being well manned and turned round, hove the laſhing or frapping as tight as poſſible, and when the frapping was tight enough, the capſton bar or lever was made ſecurely faſt, thoſe ſix frappings that were between decks were two abaft, two in midſhips, and two forward, thoſe frappings with the others before-mentioned, made ſeventeen frappings in all, which we found to be of great utility to the ſhip, as they bound her quite tight together, and prevented her from working, opening, or ſtraining ſo much as ſhe had done before. The ſhip is now kept free by two chain pumps, conſtantly going, we have a machine inſtead of a rudder, which anſwers very well, and we have jury top-maſts and ſails, as before-mentioned, and we have contrived temporary fire places for the ſhip's company to dreſs their proviſions, in the beſt manner we could, which is as follows, viz. we nailed cants upon the upper deck, under the fore caſtle, and paved within the cants with ſhot, and ſpread ſhingle ballaſt over the ſhot, on that we msde the fire to dreſs the people's proviſion, which anſwered very well. Our ſpirits, which for many days were much ſunk, and depreſſed, are now much raiſed, and we are in hopes to get to the Cape of Good Hope, by the bleſſing of Providence, to whom we are truly thankful for our great deliverance, in our diſtreſs in the late ſtorm.

topmaſt or the fidd part being intended to be the outermoſt, or after part of the machine, the key part of the machine was 12 feet in depth, and 14 feet long, the ſlit part or ſawed part of the topmaſt for the length of 14 feet, the wood was taken away nearly one inch and an half on each part of the topmaſt, which, when put together, made a mortice for the 3 inch plank to go through; which it did 6 inches more than the diameter of the topmaſt, and the heel of the topmaſt was three feet without the after part of the machine; we then put 3 inch oak planks of 14 feet long, acroſs the planks of 12 feet in depth, and nailed them well together. When the key part of the machine was formed, it was then put to the top-maſt; as the machine lay on the quarter-deck, one part of the topmaſt was put under it, and the other part over it, the two ſawed parts of the topmaſt nearly met together as was intended, that they ſhould not meet too cloſe, the up and down parts of the key being the planks of 12 feet long, came through the mortice of the topmaſt; when both parts were put together, about 6 inches as before mentioned, the key part was then bolted and ſecured to both parts of the topmaſt, and the top maſt was well ſecured by ſeveral wooldings, from the forepart of the key to the head of the maſt, and there was alſo a good woolding put on the heel of the topmaſt, without or abaft the afterpart of the key of the machine. Thus far the machine is partly formed.

Deſcription of the machine continued.

The remainder of the apparatus of this machine. We then put four ſtout ring bolts, one in each corner of the blade, or the key part of the machine, on both ſides of it, with a thimble in each ringbolt, to which was fixed two ſpans made of 8 inch cable, laid hawſers for the ſteering howſers to be fixed to; in thoſe ſpans was a thimble in a thimble, theſe thimbles were well ſeized in the bites of the ſpans, and the ſteering hawſers being eight and one half inches, were ſpliced into the other thimbles, at the bites of the ſpans, which was to ſteer the ſhip by. We then laſhed ſix pigs of iron ballaſt to the lower part of the machine, or the key part of it, in order to keep it down in the water, and alſo to make the key part ſwim more perpendicular. We

got

got the end of the ſheet cable out of the middle window of the ward room, and got the end forward without board, and in upon deck, allowed 16 fathoms of the cable to be clear without the after part of the machine, and then laſhed the cable to the after part of the machine, and ſtopped it along the top-maſt till we came to the head of it, and then put on an extraordinary good laſhing, as a great ſtrain is on the ſaid laſhing; we then had two hawſers of ſeven and one half inches, that were faſtened to the outer end of the machine, which went to the ſpare ſpans at the blade of the machine, and were ſtopped along the cable with ſlight ſtops to the fore part of the machine, and went over the ſhips taff rail upon the poop, by way of preventer hawſers, in caſe any thing ſhould happen to the ſteering hawſers; we alſo had two top-chains faſtened to the head of the machine, to guide it, and to keep it ſteady from going over of one ſide or the other, they went along the buttocks upon each quarter, with a tackle to the afterpart of the main chains.

We rigged out the davit, being a whole davit, and nearly the length or the ſhip's breadth, it was not a half davit, as is now the cuſtom; rigged it out of the middle window in the ward room, ten feet without board, in the outward end was a notch cut for the cable to lie in, and ſecured the inner end well within board by ſcutling the deck and laſhing it ſecurely round a beam, &c. We had two out riggers, one of each ſide, which were made out of a main topmaſt cut in two for that purpoſe, thoſe out riggers were rigged out of the quarter deck port, abreaſt of the mizen maſt, about 15 foot without board, and a large block laſhed to the outward end, for the ſteering hawſer to reeve through, and the inner end was well ſecured within board, by ſcutling the deck and laſhing it round a beam; the ſteering hawſers was firſt reeved through the block at the end of the out rigger and then through the block at the gangway, as before mentioned. All things being prepared, we launched the machine overboard, and hung it to the end of the davit by the cable, taking care that there ſhould not be more cable from the end of the davit to the head of the machine, than the diſtance the davit was rigged out, that the machine in a great

The machine put overboard into the water.

ſea ſhould not ſtrike the ſhip's counter, and ſervice the cable well in the wake of the end of the davit. This done.

We had two large blocks laſhed to the timber heads in the gangway, or forepart of the quarter deck, one of each ſide to receive the ſteering hawſers, which went to the ſpans of the after part, or key part of the machine, as before-mentioned, the ſteering hawſers ſo reeved, we had purchaſes on each of thoſe ſteering hawſers, in the following manner, viz. we had contrived and made a crab, or ſmall capſton, which hove with two long bars that went through holes in the head of the crab, which when ſhipped, made four bars. This crab was ſtepped on the drum head of the after capſton, which was under the quarter deck, and proved of great uſe to us. It was nearly in the center of the quarter deck.

The manner of the purchaſe that was put on the ſteering hawſer.

The purchaſe on the ſteering hawſers was thus, there were two ſingle blocks laſhed to the mizen maſt, and a ſingle block laſhed to each of the ſteering hawſers, at ſome diſtance from the leading blocks at the gangway that the ſteering hawſers were reeved through, the fall was a five inch rope, the rope was middled, and the middle part brought to the crab, the end part reeved through the block that was laſhed to the ſteering hawſer, then reeved through the block that was laſhed to the mizen maſt, the end brought forward and made faſt to the ſteering hawſer, near where the block was laſhed, and the rope hauled as tight as could be by hand. The crab now became of the ſame nature and uſe as a wheel to ſteer the ſhip by, with this difference, the wheel moved perpendicular, and the crab horizontal, in the following manner, viz.

The method of ſteering the ſhip by the machine.

If we wanted the ſhip's head to go to port, we hove in upon the larboard ſteering hawſer, having hands to hold on the ſteering rope about the crab. As ſoon as the ſhip's head was got enough to port, the men turned at the bars and hove the other way, which hove the ſhip's head to ſtarboard, and anſwered very well.

The machine anſwered our intention, and the ſhip ſteered very well with it.

Thus having given a deſcription of the machine, which we contrived to ſteer the ſhip with, and which anſwered as well, or I may ſay better than could be expected, as our journal from the preſent time to our arrival

arrival at the Cape of Good Hope will ſhew. I therefore ſhall proceed in my narrative of the ſhip's proceedings from this time to our arrival at the Cape of Good Hope, and will give a circumſtantial account of every incident that occured in our ſaid paſſage.

The 9th of February 1764, had freſh gales and clear weather, with a great ſwell from the ſouthward, at ¾ paſt 6 P. M. made the ſignal and wore ſhip to the eaſtward. The America bore WSW. three or four miles. I imagined ourſelves near the Baſſas de Indies; At 8 loſt ſight of the America; At 11 handed the fore top-ſail; At 5 AM. wore ſhip to the weſtward, ſaw nothing of the America. At noon freſh gales and clear weather, with a large ſwell from the ſouthward; the ſhip ſteers very well between W.½N. and W.½S. the ſhip makes ſo much water as to keep two chain pumps conſtantly employed, which juſt keeps her free; ſaw nothing of the America, had an obſervation, found the ſhip 46 miles to the ſouthward of the reckoning, ſuppoſed a ſtrong ſouth current, lengthened the diſtance 28 miles and allowed the courſe from W3°N. diſtance 23 miles to W28°S. diſtance 51 miles, for the ſoutherly current, latitude in 22° 30′S. longitude made from Mozambique 9′E. Mozambique N1′W. diſtance 149 leagues, the ſhip ſtanding to the weſtward.

Winds from S. to SSW.

The 10th of February, 1764. Freſh gales and clear weather, with a ſwell from the ſouthward; At 6 PM. ſaw the America to leeward of us, bearing WNW. at ¾ paſt 7 the America ſtanding to the eaſtward made the ſignal for ſeeing danger, by which we imagined ſhe had ſeen the Baſſas de Indies, or the land, wore ſhip to the SE. in veering the ſhip broke the ſtarboard out rigger of the machine, on which there was a very great ſtrain in veering the ſhip. At 10 got another out rigger for the machine. At 8 AM. ſent our boat aboard the America, got up top gallant yards, and ſet the ſails. At 9 our boat returned from the America, who informed us that the America had been cloſe in with the land, within 4 leagues of it. At 10 AM. yeſterday, and at noon that day, had Cape St. Sebaſtian, bearing WSW.½S. diſtance 8 or 9 leagues, their latitude ℔ obſervation 22° 40′S. and by the America's reckoning.

Winds from S. to WbS.

At 6 AM. made the variation by the medium of two Azimuths to be 25° 1′W.

The America made the land and ſaw Cape St. Sebaſtian.

At

At 8 this morning Cape St. Sebaſtian bore due Weſt, diſtance 24 leagues, by which we took a freſh departure from the ſaid Cape. At noon, moderate and clear pleaſant weather, with a ſwell from the ſouthward, had an obſervation, latitude in 22° 56′S. longitude made 1° 25′E. from Cape St. Sebaſtian, the ſaid Cape at noon bore W4°N. diſtance 26 leagues. The America in company. The ſhip keeps two chain pumps conſtantly going, which juſt keeps her free, found by obſervation the ſhip 15 miles to the ſouthward of reckoning, ſuppoſed a ſouth current, allowed for it, the ſhip ſtanding to the ſouthward.

Winds from SW. to WbN.

The 11th of February, 1764, little wind and fair weather, with a large ſwell from the ſouthward, two chain pumps conſtantly at work, and does but juſt keep the ſhip free, had an obſervation, found the ſhip 21 miles to the ſouthward of the reckoning, ſuppoſed a ſouth current, latitude in 23° 27′S. longitude made from Cape St. Sebaſtian, 1° 48′E. it bearing W20°N. diſtance 35 leagues, variation 25° 6′W. ſhip ſtanding to the ſouthward. The America in company.

Winds from WSW. to WNW.

12th of February, 1764, moderate and fair weather. In AM. employed in getting down the jury fore and main top-maſts, and getting up a main and fore top-maſt, which we had reduced to the proportion of a 40 gun ſhip, with yards and ſails in the ſame proportion, which we had alſo reduced; the ſhip keeps two chain pumps conſtantly going, which juſt keeps her free; had an obſervation, found the run and obſervation agree, had an obſervation of the variation, both by Azimuth and Amplitude, which was 24° 47′W. latitude in 23° 48′S. longitude made from Cape St. Sebaſtian, 2° 14′E. it bearing W25°N. diſtance 45 leagues. The America in company.

Winds from WNW. to WSW. to NNE. and NE.

The 13th of February 1764, little wind and fine clear pleaſant weather, the ſea pretty ſmooth. At 11 PM. the America bore W½S. we ſteering SSW. with the wind at NE. it being a fine clear moonſhine night; At 12 P. M. or midnight, loſt ſight of the America, which diſheartened our people very much, and it was our opinion the America parted company with us on purpoſe, the night was ſo clear, and we ſaw her ſo plain; At 11 PM. that there is not the leaſt doubt but

it

it was done with an intention to leave us, though we were in ſo much diſtreſs. So much for Naval friendſhip. We ſteer the ſhip very well with the machine, that is to ſay, within a point each way, or on each ſide of the courſe, which is SSW. that is the ſhip yaws from SbW. to SWbS. at this time we have top gallant ſails and ſtudding ſails ſet, going large; and when the ſhip is upon a wind, ſhe ſteers herſelf very well between two points, without the aſſiſtance of the machine, and makes her way through the water as ſtraight as a line can be drawn, and goes ſo near the wind as to go no more in general than half a point from it, and never goes more than a point from the wind; ſhe will ſteer herſelf for a conſtancy between two points of the compaſs; the ſhip makes water, and is pumped with two chain pumps conſtantly going, which but juſt keeps her free. Variation & Azimuth and Amplitude is 25° 1′W. At noon this day little wind and fine clear pleaſant weather, the ſea pretty ſmooth, had an obſervation, found the run and obſervation agree, latitude in 24° 22′ S, longitude made from Cape St. Sebaſtian, 2° 21′ E, it bearing W 25° N, diſt. 53 leagues. No ſhip in ſight. We find the machine ſteers the ſhip exceeding well, beyond expectation, we can ſteer her when ſhe goes 6 knots, going large, or before the wind, with top gallant ſails, ſtudding ſails, and all ſails ſet.

The America parted company at midnight.

I muſt here obſerve, that nothing material happened between the 13th of February and the nineteenth of the ſame month, except when it blew ſtrong or freſh gales and there was a large ſea, the ſhip ſtrained and opened very much, particularly forward and about the bows, and made a great deal of water, on this account we were often obliged to ſhorten ſail, and to take in our ſails when we might have carried them, had it not been for the weak and ſhattered condition of the ſhip; during this interval of time we ſaw no ſhip ſince the America parted company.

The 19th of February 1764, This day we had freſh gales and dark, cloudy, ſqually and uncertain weather, with ſome rain and a large ſwell from the SW. which obliged us to take in the firſt and ſecond reefs of the fore and main topſails, handed the mizen topſail, got down the top gallant

Winds from SWbS. to SE. and to ENE.

gallant yards, and ſtruck the top gallant maſts. At 3 PM. in trying to wear the ſhip we broke the larboard ſteering hawſer of the machine, got the preventer ſteering hawſer paſſed forward, and hove it through the block at the end of the out rigger, and got our ſteering tackle or purchaſe upon it (as mentioned in page 228) and wore the ſhip to the weſtward and continued our courſe to the WSW. At 6 AM. it being more moderate, ſet the mizen topſail, out reefs of the topſails got up top gallant maſts and yards, and ſet the ſails; At noon freſh gales and cloudy weather with rain, and a great ſwell from the SW. the ſhip is kept clear with two chain pumps conſtantly going, which does but juſt keep her free; we ſteer the ſhip with a machine; ſhortened the diſtance 7 miles for bad ſteerage, latitude in ℔ account 29° 25′S. longitude made from Cape St. Sebaſtian was 35′E. it bore N6°W diſtance 132 leagues. REMARK, The diſtance lengthened this day 21 miles, and corrected by obſervation of the 20th of February, by which we found the ſhip 49 miles to the ſouthward of the reckoning; ſuppoſed a ſtrong ſoutherly current.

Winds from E. to NE. to E. SEbS. NE. to E.

The 20th of February 1764, the firſt and middle freſh gales and cloudy hazy weather, the latter part moderate and fair pleaſant weather. At 7 PM. double reeft the topſails, and got down the top gallant yards; At 10 ſteered the ſhip with the machine, it blowing freſh gales with the wind upon the quarter; the ſhip ſteered badly, lowered down the mizen yard and croſs jack yard, and ſtruck the mizen topmaſt; the ſhip ſteered ſo badly that ſhe ranged between the ſouth and weſt; out ſecond reef of the fore topſail to make the ſhip ſteer better. At 4 AM. more moderate, with much leſs ſwell, the ſhip ſteered pretty well within a point each way of her courſe. At 6 out all reefs of the topſails, got up the top gallant yards, and ſet ſtudding ſails; variation ℔ amplitude 26° 2′W. At 10 ſhortened ſail and lay too, fore topſail to the maſt, got the machine up along ſide, in order to fix the ſteering hawſer that broke; At 3 PM. on the 19th, hoiſted the machine up along ſide, to repair and refit it. At noon freſh gales and clear weather, the ſea

pretty

pretty ſmooth, the people employed over-hauling and repairing the rigging of the machine. The ſhip makes ſo much water as to keep two chain pumps conſtantly going, which juſt keeps her free; had an obſervation, found the ſhip 49 miles to the ſouthward of the reckoning, ſuppoſed a ſouth current, corrected the reckoning ſince the laſt obſervation, and lengthened this day's diſtance 29 miles, viz. from S4°W. diſtance 71 miles, to S4°W. diſtance 100 miles for the ſoutherly current.

The 21ſt of February 1764, Moderate and fine clear pleaſant weather. At 4 P. M. finiſhed the repairing the machine, lowered it down into the water, veered it aſtern, and fixed it in its proper place to ſteer the ſhip by as before; At ½ paſt 5 filled the top-ſails and wore ſhip to the ſouthward, made ſail and ſteered the ſhip with the machine; At 6, variation ℔ amplitude is 25° 33′W. ſet ſtudding ſails and all the ſails we could; the ſhip ſteers very well with the machine. At 7 A. M. ſwayed up the mizen top-maſt, croſs jack, and mizen yards; At noon, moderate, and clear pleaſant weather, the ſea pretty ſmooth. Had an obſervation, the ſhip ſteers very well with the machine, and is kept clear with two chain pumps conſtantly going, and baleing the water out of the wad room with buckets, as the water could not run aft into the well; found by obſervation the ſhip 23 miles to the ſouthward of the reckoning, ſuppoſed a ſouth current, allowed the courſe 8° to the ſouthward, and lengthened the diſtance 22 miles, viz. from S38°W. diſtance 46 miles to S°30°W. diſtance 68 miles for the ſoutherly current. No ſhip in ſight. Winds from EbN. to SE. and ESE.

From the 21ſt of February to the 24th nothing material happened, but on the 24th had troubleſome weather.

The 24th of February 1764, Freſh gales and clear weather, with a great ſea from the SE. At 3 P. M. the ſhip ſteered badly, ſhe yawed from WNW. to WSW. down ſtudding ſails and handed the main-ſail and fore top gallant-ſail to make the ſhip ſteer eaſy; At 4, one of the bolts of the ſpans of the ſtarboard ſteering hawſer broke, brought too the ſtarboard preventer ſteering hawſer to ſteer the ſhip by; when the preventer ſteering hawſer was fixed, ſteered the ſhip with the machine; Winds from ESE. to ENE.

At 5 the ſhip ſteered very badly, ſhe yawed from SbW. to WNW. At 6 the ſhip ſteered between the W3W. and WbN. variation by two Azimuths and an Amplitude was 24° 12′W. At 7 the ſhip ſteered very badly, ſhe yawed from SW. to NW. found the ſpan of the larboard ſteering hawſer broke, and ſoon after the ſtarboard ſteering hawſer broke alſo; At 8 very freſh gales and clear weather, with a large ſea from the ESE. the ſteering hawſers and ſpans being broke, we could not ſteer the ſhip, hauled up the fore-ſail, ſet the mizen ſtay-ſail and backed the fore top-ſail, and laid the ſhip too; head to the ſouthward. At 6 A. M. hoiſted the machine up along ſide, in order to repair its rigging, the people employed in fixing new bolts, ſpans and ſteering hawſers to the machine, and found the cable much worn in the wake of the laſhing of the fore end of the machine, cut off 4 fathoms of the cable, ſpliced it, and fixed it again to the machine; At 8, handed the fore top-ſail, looſed the croſs jack, and ſet it a-back, down mizen ſtay-ſail and laid too with the croſs jack a-back. At noon freſh gales and clear weather, with a ſea from the ESE. the ſhip lying too with her head to the ſouthward, the ſhip is kept free with one chain pump, and ſome people baleing with buckets the water out of the wad room; in this manner we kept the ſhip free theſe 24 hours; found by obſervation the ſhip 19 miles to the ſouthward of the reckoning, ſuppoſed a ſouth current, allowed the courſe 17° to the ſouthward, and lengthened the diſtance 10 miles, viz. from W33°S. diſtance 50 miles to S40°W. diſtance 60 miles for the ſoutherly current, ſuppoſed ſetting to the SW. latitude in 33° 38′S. and longitude made from Cape St. Sebaſtian, 4° 11′W. it bearing N18°E. diſtance 228 leagues.

Winds from NE. to EbN.

The 25th of February, 1764, The firſt and middle parts freſh gales and clear weather, the latter part, moderate and fair weather; from noon to 9 PM. the ſhip laid too with her head to the SE. the people employed in repairing and fixing the rigging of the machine. At 8, the machine being repaired, lowered it down in the water, and veered it a-ſtern, and got it in its place, ſet the fore top-ſail, in order to give the ſhip way through the water; At 9, the machine being got in its place, and all things being ready for ſteering, the

the ſhip, wore to the weſtward, and ſteered the ſhip with the machine, ſhe ſteered very well; At 6 AM. variation ℔ the medium of two Azimuths was 24° 23′W. ſaw a ſail bearing ENE. ſhe was ſteering WNW. the ſtrange ſail was about 4 leagues a-ſtern of us; At 7, ſhe was nearer to us, ſhortened ſail, up fore-ſail and made the ſignal for knowing each other, which was anſwered, by which we knew the ſtrange ſail to be His Majeſty's Ship Norfolk, Vice Admiral Corniſh; hauled to the ſouthward to join the Admiral; At 9, joined him, out all reefs of the top-ſails, and ſet the fore top gallant ſail, and ſtudding ſails, alow and aloft forwards, kept the ſhip free theſe 24 hours with one chain pump and baleing at the fore hatchway with buckets, as the water could not come aft to the pump well; the ſhip being ſo much camvered. At noon, moderate and fair weather, with a great ſwell from the SE. had an obſervation, found the ſhip 7 miles to the ſouthward of the reckoning; ſuppoſed a ſouth current; allowed the courſe 8° to the ſouthward, viz. from W13°S. diſtance 50 miles, to W21°S. diſtance 50 miles for the current; ſuppoſed ſetting to the ſouthward, latitude 33° 56 S. longitude made from Cape St. Sebaſtian, 5° 8′W. it bearing N21°E. diſtance 236 leagues. The Norfolk in company.

As nothing material happened between the 25th and 29th of February, I ſhall now give the tranſactions for that day.

Winds from ENE. to NE. N. and NNW.

The 29th of February 1764, The firſt part moderate and fair weather, the middle part freſh gales and clear weather, the latter part little wind and fine clear pleaſant weather, the ſea pretty ſmooth. At 1 PM. ſaw the land; At 4, the extremes of the land bore from ENE. to N½W. diſtance 14 or 15 leagues, the land being high and mountainous; At 6, made the variation ℔ the medium of three azimuths, 22° 29′W. at ½ paſt, brought too and ſounded, no ground at 120 fathoms of line, bore away and made ſail; From 8 PM. to 4 AM. it blowing very freſh, the ſhip ſteered badly, handed the main and mizen topſail, and the main-ſail, on account of the ſhip's ſteering ſo badly; At 5 AM. ſaw the land bearing NE. but at a very great diſtance; At 7, out all reefs of the fore topſail,

ſet fore top-gallant ſail and ſtudding ſails forward, and ſet the main top-ſail and main top gallant ſail; At noon, little wind and fine clear pleaſant weather, the ſea pretty ſmooth, the extremes of the land in ſight ſeen from the deck bears, from NE½N. to N. diſtance 15 or 16 leagues; the ſhip is kept free theſe 24 hours with one chain pump, and baleing at the fore hatchway with buckets as before. The Norfolk in company, but is 7 or 8 miles to the weſtward of us; had an obſervation, found the ſhip 12 miles to the ſouthward of the reckoning, ſuppoſed a ſouth current. Allowed the courſe 9° to the ſouthward, viz. from W5°N. diſtance 73 miles, to W4°S. diſtant 73 miles, for the current, latitude in, 35° 7′S. longitude made is 9° 26′W. from Cape St. Sebaſtian, it bearing N32°E. diſtance 288 leagues. The ſhip ſteering to the weſtward, with the machine, and ſteers pretty well.

Obſervation.

We were ſurprized to find our ſhip a-head of the Norfolk, whom we have not ſeen ſince the 2d of February, when we were taken in the ſtorm, and when we conſider the great delays we had met with on account of the loſs of our rudder, makes it ſurprizing how we came to be a-head of the Norfolk, who had met with no diſaſter in the ſtorm in which we loſt our rudder.

Winds NWbW. to W. and SW.

The 1ſt of March, 1764, The firſt part moderate and clear weather, the middle part little wind and cloudy weather, the latter part calm, and clear pleaſant weather; At 6 PM. ſaw the land from the maſt head, bearing NNW. but at a very great diſtance, we ſuppoſed 15 or 16 leagues, variation ℔ the medium of two azimuths is, 21° 32′W. and ℔ amplitude, 21° 33′W. At 10 AM. ſounded, had ground at 68 fathoms, fine black ſand; At noon, calm and fine clear pleaſant weather, the ſea pretty ſmooth, had an obſervation, the extremes of the land bore from NE. to NbW. at a great diſtance, at leaſt 14 or 15 leagues; ſounded, had ground at 65 fathoms fine grey ſand, found the run and obſervation agree; ſuppoſed no current. The ſhip is kept free with one chain pump conſtantly going. The Norfolk in ſight, bearing NW. diſtance 4 leagues, the land we ſee is very high and mountainous, there is one very remark-

able

able hill, as high as the Peak of Teneriffe, and ſomething like it, latitude in is 34° 52′S. longitude made from Cape St. Sebaſtian is, 9° 55′W. it bearing N34° E. diſtance 292 leagues; we at this time look upon it that the Admiral in the Norfolk has parted company with us. As I have in my former publication given a full deſcription of the land and ſoundings about this part of the coaſt, I ſhall ſay nothing more of it in this place, and as nothing material happened between this day and the eighth of March, on which day we got into the Cape of Good Hope, I ſhall here give a full deſcription of our tranſactions for that day.

Winds from SSW. to SSE. SE. and SW.

The 8th of March 1764. The firſt part freſh gales and clear weather, the middle part moderate and fair weather, the latter part little wind and fine clear, pleaſant weather. At 1 PM. the ſhip ſteering to the WSW with the wind at SbE. Saw breakers to the leeward, bearing SWbW, which are off the eaſt part of the Cape of Good Hope, had ſoundings at 30 fathoms rocky ground, the eaſt part of the Cape of Good Hope bore NbW, diſtant 2 leagues. At ½ paſt one, the northermoſt part of the Cape land and the breakers in one, they bore NNW. diſtance from the breakers 3 miles; the eaſternmoſt part of the Cape of Good Hope bore NbE. diſtance 3 leagues, had ſoundings 33 fathoms coral rocks, from thence ſtanding to the weſtward ſoon deepened the water to 40 and 46 fathoms, coral bottom, and ſoon after loſt ſoundings; there is no ſoundings to the weſtward of theſe breakers; At 6, the eaſt part of the Cape of Good Hope, bore EbS½S. and the north part of ditto bore NE½N. and the Table Land bore NE¼N. diſtance of ſhore 5 or 6 leagues, variation ℔ the medium of two Azimuths is, 19° 31′W. double reeft the topſails, and handed the mizen top-ſail, had a pretty high rough ſea, prepared every thing for wearing the ſhip, handed the main top-ſails. Our intention in wearing the ſhip was to lay the ſhip's head towards the land, in order to be ready for going into Table Bay in the morning. At 7, tried to wear the ſhip to eaſtward, in wearing the ſhip we broke the ſtarboard ſteering hawſer of the machine, we brought too the ſtarboard preventer ſteering hawſer, and

wore

wore the ſhip with that, * when the ſhip was wore ſhe lay up EbS. wind at S. ſet the main top-ſail and ſtood toward the land; had the preventer ſteering hawſer given way, we could not have wore the ſhip, and conſequently ſhould never have got into the Cape of Good Hope, the conſequence of that muſt have been, we muſt all have periſhed at ſea. This was a critical juncture, Providence was pleaſed to favor us, for which we were very thankful for this particular mercy. At 10, ſtanding in towards the land. † At 12 PM. the extremes of the land bore from NEbN. to ESE½S. up fore-ſail and brought too the fore top-ſail to the maſt. Thinking ourſelves near enough the land, ſounded, no ground at 60 fathoms. At 4 AM. ſounded, no ground at 70 fathoms. At 6, ſet the fore-ſail and wore ſhip to the NE. and made ſail, out all reefs of the top-ſails and ſet ſmall ſails, the ſhip ſteered very well with the machine; at this time the bearings of the land were as follows, St. James's Mount, or the Lyon's Rump, bore NEbE½E. and the Table Land, part of it open with the weſt part of the Cape Land, bore ENE¼N. diſtance from the Mount between 2 or 3 leagues, the extremes of the land to the eaſtward bore SSE. we were well in ſhore. At 8, ſounded, had ground at 53 fathoms; and at 9 had 50 fathoms, ſhip ſteering NE. the Sugar Loaf Hill bore ENE½E. and the middle of the Table Land E½N. diſtance off ſhore, 1½ or 2 miles, the ſort of ſoundings broken ſhells and ſand. At 10, had 46 fathoms water. At 11, had 40; and at 12, had 34 fathoms water, fine white ſand with broken ſhells, ſet ſtudding ſails; At noon, little wind, and fine clear pleaſant weather, the ſea very ſmooth, had an obſervation, latitude in, 34° 4′S. we were ſteering with the machine for Table Bay. The Flag Staff on the Sugar Loaf Hill bore ESE. and the Flag Staff on the Lyon's Rump EbS. the extremes of Freeman's Bay is SSE½E. and Green Point E½N.

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* Never did my heart feel more anguiſh than at this moment, when the ſteering hawſer gave way; nor was I ever more rejoiced or more thankful to God, than I was by the goodneſs of his Providence, in cauſing the ſhip to wear by the Preventer Steering Hawſer.

† We ſtood well in for the ſhore, being fully determined rather to run the ſhip aſhore, than to run the riſque of being drove off the land to ſea, in the ſhattered condition the ſhip was in.

E½N. The Flag Staff on Penguin Iſland, NNE¾E. diſtance from the Point of the Lyon's Rump 1½ mile; the ſhip is kept free with one chain pump conſtantly going.

Wind SW. Arrival at the Cape of Good Hope.

The 9th of March 1764, Theſe 24 hours little wind and fine clear pleaſant weather, ſteering in for Table Bay at the Cape of Good Hope; At 2 PM. anchored in Table Bay with the beſt bower in 5½ fathoms water, moored ſhip with the bowers a cable each way, the beſt bower to the NW. and the ſmall bower to the SE. in 5½ fathoms water, bearings when moored, the houſe on Penguin Iſland bore, N½W. Green Point, NW¾N. and Charles's Mount, S½W. diſtance from the town 1 mile, and from the neareſt ſhore ½ a mile * found lying here His Majeſty's ſhips Norfolk, America, and Chatham; the Norfolk being Vice Admiral Corniſh, who had arrived here but 2 days before us. We alſo found lying here two of the French Eaſt India Company's ſhip, who during the late War, acted as Men of War in their Line of Battle, viz. De Count de Provence of 74 guns, and the Vengeur, of 64 guns. Here I muſt in ſtrictneſs of juſtice give credit to the French Commanders, who, on hearing of our diſtreſs, and of our being off the the Cape, ſent out their launches with anchors and hawſers, and other boats with Officers and people to aſſiſt us in getting into the Bay, who came out a great way to meet us, long before we had any boats from our own ſquadron; and after we got in, and whilſt we lay at the Cape, the French Officers were exceeding civil and polite to us, and ſeemed to admire the contrivance of our machine which we ſteered the ſhip

* Here I muſt leave to obſerve the goodneſs of Providence to us, on the 8th and 9th of March, when ſteering the ſhip with the machine for the Cape of Good Hope, and in ſailing into Table Bay, how much we were favoured with reſpect to the wind and fair weather, we had the wind in SW. quarter, with moderate and fair pleaſant weather, which enabled us to get into good anchoring ground in a proper birth, where we anchored and moored in ſafety. The SW. wind being a wind that ſeldom blows at this ſeaſon of the year, the SE. wind being the moſt prevailing at this time and blow very ſtrong for many days together, ſo that ſhips cannot carry ſail againſt them, which wind blows right out of the Bay; had it blew ſo the day we arrived, we could never have got our ſhip into Table Bay. What muſt have been the conſequence, I cannot ſay, but can ſay, we were thankful to God for his goodneſs, in giving us ſuch a favorable opportunity of getting ſafe into the Bay.

ſhip by, and much approved of the manner we had frapped and ſecured our ſhip, and admired our perſeverance in preſerving the ſhip from foundering, which ſeemed not ſo much noticed by our own ſquadron, ſome of whom had unkindly deſerted us in the day of our trouble. Struck yards and top-maſts, as is uſually done in this place, and made the ſhip ſnug for lying at anchor here, as it frequently blows hard for ſeveral days together.

I muſt here obſerve, that the ſtorm that happened to us, in which our troubles firſt began, and in which we were in the utmoſt diſtreſs was on the 31ſt of Jan. 1764, The ſtorm continued to the third of Feb. in which time we were in conſtant fear of the ſhip's foundering, we were continually employed with all our pumps going, and baleing at all the hatchways with buckets. The 3d of February we loſt our rudder, and to add to our diſtreſs, our coppers and fire place for dreſſing our proviſions all fell down by the violent working of the ſhip. The 8th we compleated the machine for ſteering the ſhip, got it into the water and wore the ſhip by it, and continued to ſteer her for the Cape of Good Hope; we were 39 days from the time we met with the ſtorm, and 35 days we were without a rudder, in which time we navigated the ſhip the diſtance of 650 leagues to the Cape of Good Hope, where we arrived the 9th of March 1764, after experiencing much trouble, fatigue, anxiety, and almoſt every painful ſenſation that could be preſented to the human mind, for 39 days together, but when we arrived at the Cape of Good Hope, we were relieved from our trouble and care, for which we were thankful to God for his gracious goodneſs, in preſerving us in ſuch imminent danger as we had been in, and ſending us ſafe into port after all our troubles.

We lay at the Cape of Good Hope from the 9th of March to the 17th of April 1764; during this time we were employed in refitting our ſhip in the beſt manner we could.* We got two hand pumps fixed down the fore hatchway, to pump the water out of the forehold, the ſhip

* The ſhip was ſo ſhattered, rotten, and decayed, in every part, that ſhe would have been condemned at the Cape, but that was not allowed to be done.

ſhip being ſo much broke or hogged, that the water could not run aft to the pump well; ſo much broke was the ſhip, that a man ſtanding at the after part of the ward room, and another man ſtanding under the forecaſtle a-breaſt of the foreſail ſheet bitts, could not ſee any part of each other below their middle, and the ſhip was quite broke off and parted at the gangway, from the gunwale down to the upper deck. * We caulked in all our lower deck ports, by way of ſtrengthening the ſhip, and parſled or covered the ſhip's ſides and decks with canvaſs, to prevent the water from coming in, that the people might lye dry in their hammocks, and paid the canvas all over with pitch; we got out all our iron ballaſt to eaſe the ſhip, and put it on board the other ſhips of the ſquadron; we made a new rudder of a very light ſort of timber, but much ſmaller than the former rudder that we loſt, and not ſo broad by 14 inches. This new rudder was conſtructed in a different manner from the former, the after part or back of the rudder being made much broader than the forepart, or bearding part of the rudder: by this contrivance it had much more power of the ſhip, and made more reſiſtance in the water; this rudder we were in hopes would anſwer, though ſo much leſs than our former rudder. † The ſhip being fitted in the beſt manner we could, and taking particular care that the frappings which we had on the ſhip when we went into the Cape, were the ſame when we ſailed from it, and were hove well tight; we prepared for ſailing, taking care to preſerve our machine, that, ſhould our new rudder not anſwer in ſteering the ſhip, we might again have recourſe to the machine. We ſailed with the Admiral and the Squadron from the Cape, the 17th of April, 1764, and found our new rudder anſwer very well; the ſhip ſteered as well with the ſmall narrow rudder, as with her old broad rudder, which was 14 inches broader than our preſent new rudder, and which ſhews the miſtaken ideas of the people in the ſhipwright line, in this, as well as

Sailed from the Cape of Good Hope.

* It was however determined, that home ſhe muſt go, though at the riſque of drowning all the people in her.

† The old rudder we loſt, was the largeſt, heavieſt, and moſt prepoſterous rudder that was ever hung to a ſhip's ſtern, and out of all proportion, as is plainly ſhewn in the Work.

as many other inſtances reſpecting a ſhip; we arrived at St. Helena
Arrived at St. Helena, the 30th of April. Whilſt we lay at this place, we got our ſheet and ſpare anchor down the main hatchway into the hold; and when we ſailed from thence, we got the beſt and ſmall bower anchors aft, with their flukes, in the upper deck port, abaſt the cheſt tree, in order to eaſe the
Sailed from St. Helena. ſhip's bows. We ſailed from St. Helena the 6th of May, and had a pleaſant paſſage, with pretty good weather; between St. Helena and England our ſhip proved tighter than we expected; in fair weather ſhe only required pumping once an hour, and ſometimes every half hour, with a freſh of wind and ſea; ſhe kept one chain pump and two hand pumps that were placed down the fore hatchway conſtantly going, and when it blowed ſtrong with a large ſea, the ſhip required two chain pumps and two hand pumps, to keep her free. Whenever it blew freſh, we were very cautious in carrying ſail, being obliged to take the reefs in the topſails, when any other ſhip might have carried their top gallant ſails, and was obliged to hand or take in our topſails, when a ſhip might have carried her topſails with all the reefs out. The ſhip ſtrained and worked in ſuch a manner, it was frightful to ſee, in going againſt a head ſea, I have often thought ſhe would have parted in the mid-ſhip's, but it pleaſed God ſhe held together, which was as much as as we could ſay; nothing but the frappings could have kept her together.
Arrived at Spithead. We ſailed from St. Helena the 6th day of May, and arrived at Spithead the 11th of July 1764, we were nine weeks and three days on our
Made the land. paſſage.

I muſt here beg leave, before I conclude the narrative of the Elizabeth's voyage in her return to England, to give the reader the day's work for the 8th of July, being the day we ſaw the land, and the reckoning is worked home to noon that day, with the bearings of the Start ℔ compaſs, with the diſtance and depth of water ℔ ſoundings.

Sunday the 8th of July, 1764, Theſe 24 hours little wind and clear weather, the ſea extremely ſmooth. At 8 PM. made the variation ℔ medium of five azimuths, 20° 52′W. and by a good amplitude, 21° 2′W. At 7 AM. ſounded, had 44 fathoms water, broken ſhells, without ſtones or ſand; the Chatham being ſent a-head to look out, made the

ſignal

ſignal for ſeeing the land. At 8, ſaw the land, bearing NEbN, diſtance 9 or 10 leagues. At noon, little wind and fine, clear, pleaſant weather, the ſea very ſmooth, had an obſervation, variation allowed, as ♈ Azimuth and Amplitude. The Start Point bore, NE½E, diſtant 8 or 9 leagues, ſounded, had 45 fathoms water, broken ſhells with ſome ſtones, found the run and obſervation agree to a mile; the courſe is N 45° E, diſtance 23 miles, latitude in, ♈ obſervation, 49° 53′ N, longitude in, 3° 5′ W, Longitude made 11° 20 E, the Iſland of Aſcenſion S 7° W, diſtance 1168 leagues, the Start Point ſhould bear by our reckoning, W 28° N, diſtance 10 leagues.

The Iſland of Aſcenſion's Longitude from London		14° 25′ W
The ſhip's Longitude made from the Iſland Aſcenſion the 8th of July, 1764,		11. 20 E
The Ship's Longitude on the 8th of July at noon, from London . .		3. 5 W

The Start Point's Latitude	50° 6′ N	Longitude from London . .	3° 45 W
The Ship's Lat. at noon ♈ Obſ.	49. 53 N	The Ship's Longitude from London	3. 5 W
The Ship to the Southward of the Start . .	0. 13	The Ship to the Eaſtward of the Start	0. 40

I ſhall here beg leave to obſerve, our reckoning was pretty exact, and is worked home to noon, when we ſaw the land bearing as before mentioned.

Remarks on the Elizabeth's Arrival at Spithead.

We were ordered to Chatham to be paid off; It was judged neceſſary to have ſomething done to the ſhip, by way of preparing her to proceed to Chatham, by ſecuring her upper works, to keep her together before ſhe could go from Spithead; In conſequence of this application, a number of ſhipwrights and caulkers from the dock-yard were ordered on board, to do what might be neceſſary for the ſhip's going round to Chatham; when the Artificers came on board, they were ſurprized beyond expreſſion, to ſee the ſhip frapped fore and aft upon both decks, the decks and ſides parſled or covered over with canvas, and the ſhip ſo much broke or hogged, it was frightful to behold, and we

thought it unſafe to take off any of the frappings. The ſhipwrights and caulkers were ſo much ſurprized at the appearance and condition of the ſhip, that they did not ſtay on board a quarter of an hour, they thought themſelves in danger, in being on board the ſhip as ſhe lay at Spithead; they went a-ſhore and reported the ſhip to be in ſuch a condition, that it was impoſſible to do any thing to her, and that it was unſafe for the ſhip even to lie at Spithead. When this report was ſent to the Admiralty, the ſhip was ordered into Portſmouth Harbour, where we were paid off, and ſoon after the ſhip was ordered to be taken to pieces. She did not require much trouble to break her up; ſhe had been eight years on her voyage to the Eaſt Indies. Thus ended a good old ſhip, that had done great ſervice, and for whom I had great veneration, though I had ſo much trouble in her.

A Narrative of the Proceedings of His Majeſty's Ship Grafton who loſt her Rudder at Sea, nearly as the Elizabeth did. The Hiſtory is as follows.

The 11th of September, 1757, Sailed from Halifax Harbour, in North America, with Vice Admiral Holbourne and Rear Admiral Hardy, with eighteen ſail of the Line, three Frigates and one Fire-ſhip, and the ſame day joined the Cruizer Sloop from England. On the 15th joined company his Majeſty's Ships Devonſhire and Prince Frederick from England, we are now twenty ſail of the Line and five Frigates; the 24th of September at noon, Louiſburgh by our reckoning bore, N8°W, diſtance 14 leagues, latitude in, by account, 45° 28′N. A great ſwell from the eaſtward, the wind ESE, all the fleet in company; ſtrong gales and hazy weather.

Which indicated there would be a ſtorm from the eaſtward.

The 25th September, 1757. The firſt part hard gales and thick hazy weather. At 3 PM, brought too under a cloſe reeft main top-ſail; At 7 PM, handed the main top-ſail, ſet the main ſail and lay too, under it, as did all the fleet under their main ſails; the middle part violent hard gales and thick heazy weather, with rain and a great ſea, which occaſioned the ſhip to labour much, and ſhe made a great deal of water.

At

T. Luny. del.

R. Pollard. sculp.t

The GRAFTON: Page 246.

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At 3 AM. the main-ſail ſplit and blew away from the yard, lay too under a reeft mizen main ſtay-ſail, and mizen ſtay-ſail; At 5 AM. the gale and ſea increaſing, the ſhip rolled and laboured very much in the trough of the ſea, ſhe ſtrained and made much water; found ſhe gained on the pumps, having 6 feet water in the hold, and the ſea making a free paſſage over her; we being then upon the larboard tack, and we ſuppoſed the ſhip drifted towards the land, and knowing we were not far from it, it was judged the ſhip would clear the land better on the other tack. At 8 AM. attempted to wear the ſhip in, when the fore ſtay-ſail and ſprit-ſail blew to pieces, at the ſame time the tiller broke in the rudder head, found the water in the hold had increaſed from 6 to 8 feet, which water logged the ſhip, and made her lye motionleſs on her broad ſide, with the quarter deck rails and lee gunwale under water. At this time, in working the chain pumps, both the pump chains broke, which rendered the pumps uſeleſs for a great time; At ½ paſt 8, cut away the main and mizen maſts, in order to right or relieve the ſhip, which was then lying on her broad ſide, got the Pump chains repaired, the people employed at all the pumps, and baleing at all the hatchways with buckets; At ½ paſt 9, the foremaſt fetching a great deal away, were fearful of its being brought by the board, therefore cut away the fore top-maſt, in order to ſave the fore-maſt; At ½ paſt 11, ſaw breakers as high as a ſhip's maſt head, right a-head and on the weather bow, we immediately tried to wear the ſhip with the fore-ſail, and as the tiller was broke in the rudder head, and not able to get the piece out, we made uſe of the rudder tackles, and bowſed on the lee tackles, in order to wear the ſhip; the iron ſtrap that is fixed on the back of the rudder came off, which rendered all attempts to wear the ſhip in vain, and being near the breakers, was obliged to anchor in 35 fathoms water, about a mile and an half from the breakers, and veered to two cables, and brought the ſhip up, and though we ſaw the breakers exceeding high, we did not ſee the land, got the ſheet anchor over the ſide ready for letting go, and had hands by the beſt bower ready for to let it go if the ſmall bower ſhould part; after the ſtrap came

only meant to shew where it is, when Knocked adrift

came off the back of the rudder, to which the rudder pendants were fixed the rudder worked about moſt furiouſly, enough to ſhake the ſtern poſt to pieces, which we could not prevent. * At noon, ſtrong gales and very hazy cloudy weather, with much rain and a very great ſea, the people employed pumping and baleing the ſhip at all the hatchways, the Carpenters employed in trying to get the piece of the broken tiller out of the rudder head.

The 26th of September 1757, The firſt part ſtrong gales and clear weather, and a very great ſea from the eaſtward, ſome people employed ſetting up the fore rigging and raiſing a jury mizen maſt, got up a main ſtudding ſail boom for a jury mizen maſt, and got a fore top gallant ſail for a mizen, got in the ſprit-ſail yard, and bent a new ſprit ſail to it, and got it ready for ſetting as a fore-ſail, and prepared every thing ready for getting the ſhip under ſail, ſaw the land very plain between St. Eſprit and Foſheet Point, the extremes of the land bore from NW. to NEbE. diſtance off ſhore between 2 and 3 miles, and from the breakers one and $\frac{1}{4}$, ſaw 7 ſail of our fleet at anchor, who were diſmiſted, and moſt of them very near the ſhore, and one ſhip quite wrecked and without maſts, ſhe was right in ſhore of us, which we took to be a third rate, but proved to be his Majeſty's ſhip Tilbury of 60 guns, entirely wrecked; At $\frac{1}{2}$ paſt 3 PM. the rudder having worked all the gudgeons but two of the ſtern poſt, and alſo worked itſelf out of the two upper pintles, the rudder broke from the ſhip's ſtern poſt and went adrift, leaving the two upper pintles in the gudgeons; At $\frac{1}{2}$ paſt 4, the ſmall bower parted, and the ſhip caſt with her head off ſhore; ſet the fore ſtayſail, and ſet the fore top gallant ſail for a mizen, which ſoon blew to pieces, ſet a ſpritſail topſail for a mizen, and ſet the ſpritſail for a foreſail. The ſhip ſteered herſelf very well with the wind upon the beam, and went from the ſhore very faſt, we counted 13 ſail

* At this time we had no chocks to chock the rudder head in the ward room, which, in conſequence of our diſaſter, when we came to England, were fitted, and the rudder head made longer, in order to ſhip a tiller in the ward room.

ſail of our fleet, all at anchor and diſmaſted; At 6, Foſheet Point bore, NEbE. diſtance 4 leagues; Foſheet Point is about 13 or 15 leagues to the ſouthward of Louiſburgh, got up a main ſtudding ſail boom for a jury main maſt, and ſet a fore ſtudding ſail for a mainſail, the ſhip went pretty faſt through the water, and made her courſe S. and SbW. wind at WbN. and WNW. At 2 AM. ſounded, had 72 fathoms water, rocky ground, by which we found the ſhip drew off from the land; At 6, bent a new foreſail, ſwayed up the yard, and ſet the ſail, employed getting ready a ſpare main top maſt for a jury main maſt, and a ſpar for a jury fore topmaſt, ſaw 12 ſail of our fleet, all of them diſmaſted but one ſhip, made the ſignal of diſtreſs to them, but no one came near us, though we fired ſeveral guns by way of ſignal; At noon, moderate and fair weather, latitude in, ℔ obſervation 45° 13′N. Foſheet Point by our reckoning bore, N½W. diſtance 11 leagues, our ſhip makes two feet water in an hour, we found all our powder damaged in the magazine, the powder barrels were all ſtove to pieces in the late ſtorm, the Carpenter employed making a machine to ſteer the ſhip.

Winds WSW. SSE. SW. W. and WSW.

The 27th of September 1757, The firſt part moderate and cloudy weather, the middle part freſh gales and cloudy, with rain, the latter part freſh gales and fair weather. In PM. ſet a main top gallant ſail for a fore topſail, ſaw ſeveral ſail of our fleet, made the ſignal of diſtreſs and fired a great number of guns which they took no notice of. In AM. found the ſhip make much water, at the rate of two feet ℔ hour, which we judged to be occaſioned by the nail holes of the rudder braces, which were wrenched off when the rudder went away, the Carpenters employed making a machine for a rudder, and preparing a ſpare main topmaſt for a jury main maſt; At noon, freſh gales and fair weather, had an obſervation; latitude in, 45° 13′N. longitude made from Foſheet Point, is 56′E. it bearing N40°W. diſtance 17 leagues. It was this day determined, by a conſultation of the Commodore, Captain, and Officers, to make the beſt of our way for England, as it was impoſſible to go with the ſhip to Halifax, the place of rendezvous, by the Admiral's orders, in the

ſhattered

ſhattered condition the ſhip was in, being without maſts, and without a rudder.

Winds WbS. SW. to W.

The 28th of September 1757. The firſt part freſh gales and fair weather, the middle and latter part moderate and clear. PM. got up a ſpare main topmaſt for a jury main maſt, and a ſpritſail yard for a main yard, and bent the fore topſail for a mainſail and ſet it, found a great deal of water in the bread room, got all the bread up into the gun room, a number of people employed baleing the water out of the bread room, found the greateſt part of our bread quite ſpoilt by the leakes in the bread room, began to clear the fiſh room, in order to make a paſſage for the water to run from the bread room to the hold. * AM. employed in fitting a rough ſpar for a jury mizen maſt; put the ſhip's company to an allowance of water, one quart a man ℔ day, and a pint of grog, the people employed in clearing the fiſh room and ſpirit room, in order to make a paſſage for the water to go forwards from the bread room; there being a great deal of water in the ſpirit room, a number of people continually employed in baleing the water out of the bread room; At noon, moderate and fair weather, had an obſervation, variation allowed 1½ point weſt, found the reckoning and obſervation agree; the courſe is S44°E. diſtance 65 miles, latitude in 44° 26′N. longitude made from Foſheet Point, is 2°E. it bearing N46°W. diſtance 39 leagues.

Winds from SWbW. to SWbS. to WbS.

Had ſoundings.

The 29th of September 1757. The firſt and middle part moderate and fair weather; the latter part freſh gales and ſqually, with rain. PM. got up a jury mizen maſt, and a jury main top-maſt; At 8 ſounded, had ground at 50 fathoms fine ſand; From 8 to 11, tried to wear the ſhip but could not; At 11 got up a ſpare jib boom for a fore top-maſt; At

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* I muſt here obſerve, how little our ſhip conſtructors were, (though they pretended to be) acquainted with the nature of a ſhip when at ſea, and how deficient tney were in profeſſional knowledge, in not making a water courſe from the bread room to the hold, which is as neceſſary as limber boards in the hold; firſt, the mizen maſt is ſtept in a crutch, at leaſt 3 or 4 feet deep, then there is the after bulk head of the magazine, the fore bulk head of the magazine, the bulk head of the fiſh room, alſo the bulk head of the Spirit room, which are 4 bulk heads, without any water courſe through them, therefore they muſt be bailed out. ——A horrid overſight!

T. Luny. del.

R. Pollard. sculp.t

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At 12 got up a mizen top-ſail yard, for a fore top-ſail yard, and bent a mizen top-ſail for a fore top-ſail and ſet the ſail, tried to wear the ſhip but could not; At 2 AM. not being able to wear the ſhip, braced the head ſails ſharp a-back, and let the ſhip drive; ſounded, had ground 40 fathoms, fine ſand; At 6, having finiſhed the machine for ſteering the ſhip with inſtead of a rudder, got it overboard and put it in its place; At 7, wore ſhip with the machine, and made ſail to the ſouth eaſtward, people employed pumping the ſhip and clearing the ſpirit room and fiſh room, for the water to run forwards to the pumps, and baleing the water out of the bread room with buckets; At noon, freſh gales and ſqually weather, with rain; no obſervation, variation allowed $1\frac{1}{2}$ point W. the courſe E'12°N. diſtance 35 miles, latitude in, is 44° 38'N. longitude made from Foſheet Point, 2° 48'E. it bearing W33°N. diſtance 47 leagues.

Got the machine overboard, and ſteered the ſhip by it.

The 30th of September 1757, theſe 24 hours freſh gales and cloudy hazy weather, with a great and confuſed ſea. At 6 PM. was obliged to ſhorten ſail, and let the ſhip come to the wind to eaſe her; ſhe rolled ſo prodigiouſly deep, that we feared ſhe would roll her maſts away. At 10 AM. ſet the main ſail, and hauled the ſhip to the wind, on account of her labouring and rolling ſo deep; At 11, lowered down the main yard, reeft the ſail, and handed it, got down the main top-ſail yard to eaſe the ſhip and make her ſteer. At noon, freſh gales and cloudy weather, with a great ſea from the weſtward; variation allowed, $1\frac{1}{4}$ point weſt, ſhortened the diſtance 8 miles for bad ſteerage; the courſe E½S. diſtance 70 miles: no obſervation, latitude in, 44° 26'N. longitude made from Foſheet Point, 4° 27'E. it bearing W23°N. diſtance 70 leagues.

Winds from WSW. to NW.

The 1ſt of October 1757, The firſt and middle part, freſh gales and cloudy, the latter part moderate and fair weather. In PM. got a hand pump down in the fiſh room, to clear it of the water that continually runs from the bread room into it; employed baleing the water out of the bread room, and pumping the water out of the fiſh room, in order to ſcuttle the bulkhead of the bread room, to let the water run forward; put the ſhip's company to $\frac{2}{3}$ allowance of bread, there being ſo much

Winds from NW. to WNW.

damaged by the leakes in the bread room. At noon, moderate and fair weather; had an obſervation, variation allowed, 1 point W. ſhortened the diſtance 7 miles for bad ſteerage, found the reckoning and obſervation agree; the courſe E39°S. diſtance 82 miles, latitude in, 43° 34′N. longitude made from Foſheet Point, is 5° 56′E. it bearing W28°N. diſtance 95 leagues.

Winds WbN. The 2d of October, 1757. Theſe 24 hours, moderate and fair weather. PM, finiſhed a crab, which ſtepped in the drum head of the after capſton, for heaving the machine to ſteer the ſhip by, employed in pumping and baleing the water from the fiſh-room and bread-room as before, find the water in the bread-room decreaſe; variation allowed, 1 point weſt, ſhortened the diſtance 6 miles for bad ſteerage, found the reckoning and obſervation agree, the courſe EbS, diſtance 82 miles, latitude in, 43° 18′ N, longitude made from Foſheet Point is, 7° 46′E, it bearing W 25° N, diſtance 122 leagues.

Winds WNW. The 3d of October, 1757. The firſt part, moderate and fair weather, the middle part calm and hazy weather, with a ſwell from the NW, the latter part calm and foggy. At 6 AM, got the machine for ſteering the ſhip up along ſide, in order to repair it, no obſervation, variation allowed 1 point weſt, made no allowance for bad ſteerage; the courſe E 16° N, diſtance 37 miles, latitude in, 43° 28′ N, longitude made from Foſheet Point is, 8° 34′E, it bearing W 21° N, diſtance 130 leagues; employed in baleing the water out of the bread-room, and pumping the water out of the fiſh-room.

Winds SSW. to SW. The 4th of October, 1757. The firſt part calm and foggy weather, the middle and latter part moderate and fair weather. In PM, baled the bread-room dry, found a leak in the bread-room near the ſtep of the mizen maſt, by the keelſon. At 6 PM, having repaired the machine, veered it a-ſtern, got it into its place and ſteered the ſhip by it; employed pumping the water out of the fiſh-room. AM, the Carpenters employed cutting a hole through the ſtep of the mizen maſt, to make a paſſage for the water to go forward from the bread-room to the fiſh-room; had an obſervation, variation allowed 1 point weſt, found the ſhip 20 miles

to

to the northward of the reckoning, ſuppoſed a north current, corrected the courſe and diſtance ſince the laſt obſervation, allowed the courſe 16° to the northward for the current, the courſe is, E 26° N, diſtance 37 miles, latitude in 43° 44′ N, longitude made from Foſheet Point is, 9° 20′ E, it bearing W 17° N. diſtance 138 leagues.

The 5th of October, 1757. The firſt part, moderate and clear weather, the middle part moderate and foggy weather, the latter part freſh gales and hazy weather. AM. took up the limber boards in the fiſh-room, and ſcuttled the bulkhead of the fiſh-room and ſpirit-room, to let the water run forward to the pump-well. At noon, handed the main ſail to make the ſhip ſteer better, employed pumping the ſhip, ſhe makes at the rate of 2 feet water ℔ hour, no obſervation, variation allowed 1¼ point weſt, allowed the courſe ¼ of a point to the northward for bad ſteerage, the ſhip yawing that way, the courſe E 5° N, diſtance 102 miles, latitude in, 43° 52′ N, longitude made from Foſheet Point, 11° 42′ E, it bearing W 13° N, diſtance 170 leagues.

Winds from SW. to SWbS.

From the 5th of October, 1757, to the 9th, nothing material happened worth mentioning.

Remarks.

The 9th of October, 1757. The firſt part little wind and hazy weather, the middle and latter part moderate and fair weather. At 1 PM, ſaw a ſail in the NE quarter; At 4, ſpoke the ſail we ſaw, which proved to be his Majeſty's Ship Scarborough, from England, bound to Halifax; ſhe ſupplied us with ſome ſtores; At 8, ſhe parted company, AM. the people employed pumping the ſhip, ſhe has a conſtant leak in the bread-room; had an obſervation, variation allowed, ¼ point weſt, a great ſwell from the NW, allowed for it in the courſe, and lengthened the diſtance 4 miles, found the rockoning and obſervation agree; the courſe is E 17° S, diſtance 52 miles, latitude in, 44° 12′ N, longitude made from Foſheet Point is, 18° 1′ E, it bearing W 7° N, diſtance 260 leagues.

Winds variable from NW. NEbE. EbN. to NbE.

Spoke his Majeſty's ſhip Scarborough.

A conſtant leak in the bread room.

The 10th of October, 1757. The firſt part, moderate and cloudy weather, the middle part little-wind and cloudy weather, the latter part ſtrong gales and fair weather. At 6 PM, variation ℔ Amplitude is,

Winds from N. to WNWt

15° 33′ Weſt; At 8 AM. handed the main top-ſail to make the ſhip ſteer better; At 10, lowered down the main yard, and handed the main ſail, to make the ſhip ſteer better, employed pumping the ſhip as before, had an obſervation, variation allowed, as ℔ Amplitude, allowing the courſe 3° to the ſouthward for a great ſwell from the northward, and ſhortened the diſtance 2 miles for bad ſteerage, found our reckoning and obſervation agree, the courſe E5°S. diſtance 90 miles, latitude in, 44° 4′N. longitude made from Foſheet Point, is 20° 7′ E, it bore W 6° N, diſtance 292 leagues.

Winds from NW. to NbE.

The 11th of October, 1757. The firſt part freſh gales and ſqually weather, the middle and latter part ſtrong gales and cloudy, ſqually weather. At 1 PM, took the 2d reef in the fore top-ſail, got down the main top-ſail yard, and ſtruck the main top-maſt to make the ſhip ſteer eaſy. At 6, the ſhip yawed from ESE to E; At 7, hauled up to the wind and let the ſhip ſteer herſelf in order to eaſe the hawſers of the machine; At 8 AM, the ſhip yawed from the E to ESE. Set the main ſail; At noon, ſtrong gales, and very heavy ſqualls of wind, with ſome rain, handed the fore topſail, the ſhip yawed from ESE to eaſt. Employed pumping the ſhip, ſhe makes at the rate of 2½ feet ℔ hour, had an obſervation, variation allowed 1¼ point weſt, a great ſea from the NW. Should have lengthened the diſtance for the great ſea, but ſuppoſed the bad ſteerage, ſhortened the diſtance as much as the ſea lengthened it, found the reckoning and obſervation agree. The courſe E 4° S, diſtance 96 miles, latitude in, 43° 57′ N, longitude made from Foſheet Point, is 22° 21′ E, it bearing W 6° N, diſtance 324 leagues.

Winds from NbW. to NbE.

The 12th of October, 1757. The firſt and middle part ſtrong gales and cloudy ſqually weather, with a great ſea from the northward, the latter part hard gales and ſqually weather, with a very great ſea from the ſame quarter. At 9 PM, ſplit the fore top-ſail by the ſheet and hallyards giving way. At 6 AM, lowered down the main yard, and handed the main ſail, reeft the mizen and ſet it, ſoon after it ſplit and blew to pieces, bent a fore ſtay-ſail for a mizen, and ſet it with the leech

leech part to the maſt, and the tack of the ſtayſail became the ſheet part; the ſhip yawed from EbN to EbS. At noon, very hard gales and ſqually weather, with a great ſea from the northward; the ſhip ſteered herſelf theſe 24 hours, employed pumping the ſhip, no obſervation, variation allowed $1\frac{1}{4}$ point weſt, allowed the courſe $\frac{3}{4}$ of a point to the ſouthward for the great ſea from the northward, but did not lengthen the diſtance on account of the bad ſteerage. The Courſe E 27° S, diſtance 86 miles, latitude in, 43° 8′ N, longitude made from Foſheet Point, is 24° 8′ E, it bearing W 8°N. diſtance 348 leagues.

The 13th of October, 1757. The firſt part ſtrong gales and ſqually weather with rain, the middle part freſh gales and ſqually with much rain, the latter part moderate and fair weather. In PM. the Ship yawed from EbS. to SEbE. At 6 AM, ſwayed up the main yard and ſet the main ſail; At 8, ſet the fore topſail. At noon, moderate and fair weather, with a great ſwell from the northward, employed pumping the ſhip, variation allowed $1\frac{1}{4}$ point weſt, had an obſervation, found the ſhip 7 miles to the northward of the reckoning, allowed the courſe 9° to the eaſtward; courſe E 39° S, diſtance 61 miles, latitude in, 42°40′N, longitude made from Foſheet Point, 25°12′E, it bearing W 10°N, diſtance 368 leagues. Saw a ſail in the ENE, ſtanding to the weſtward. The ſhip ſteered herſelf theſe 24 hours. In AM. ſhe yawed from SSE to South.

Winds from N. to eaſt.

The 14th of October, 1757. The firſt and middle part moderate and fair weather, the latter part little wind and fair weather. At noon, little wind and fair weather, with a large ſwell from the NE, employed pumping the ſhip, had an obſervation, variation allowed $1\frac{1}{4}$ point weſt, found the ſhip 21 miles to the ſouthward of the reckoning, allowed the courſe 26° to the weſtward, and ſhortened the diſtance 16 miles, ſuppoſed a ſtrong ſouth current, the courſe, N 75° W, diſtance 21 miles, latitude in, 42° 45′ N, longitude made from Foſheet Point, 24° 44′E, it bearing W 10° N, diſtance 360 leagues. In AM, employed repairing the rigging of the machine; the ſhip ſteers herſelf, ſhe yawes from NbW to NWbN.

Winds from ENE. to NNE.

The

Winds from SW. to SWbW.

The 15th of October 1757, The firſt and middle part calm, with very light airs of wind, and cloudy weather, the latter part moderate and cloudy weather, with a ſwell from the NE. At 3 PM. got the machine up along ſide, to repair the rigging of it, &c. At 6, variation ℔ amplitude, 14° 39′W. At 6 AM. lowered down the machine, veered it a-ſtern in its place, made ſail, and ſteered the ſhip with the machine, ſet all the ſails. At noon, moderate and cloudy weather, employed pumping the ſhip, had an obſervation, variation allowed, as ℔ amplitude; found by obſervation, the ſhip 22 miles to the ſouthward of the reckoning, notwithſtanding the allowance of 7 miles made for the ſwell from the NE. ſuppoſed a ſtrong ſouth current, allowed the courſe ſix points to the ſouthward, viz. from EbN. to SEbS. the courſe is SEbS. diſtance 22 miles, latitude in, 42° 27′N. longitude made from Foſheet Point, 25° 1′E. it bearing weſt 11°N. diſtance 364 leagues.

Winds variable SW. NNW. WNW. to NWbN.

The 16th of October 1757, The firſt part moderate and cloudy weather, the middle and latter part freſh gales and cloudy ſqually weather, with ſome rain; At 8 PM. was taken a-back with a hard ſquall of wind and rain from the northward, handed the mainſail, cloſe reefed the fore topſail and ſet it; At 9, ſet the mainſail; At 6 AM. got down the main topſail yard to eaſe the ſhip, and make her ſteer better, a very great ſea from the NW. At 10, got up the main topſail yard, and ſet the ſail. At noon, freſh gales and cloudy weather, employed in pumping the ſhip. The ſhip has ſteered himſelf ſince 8 PM. when we were taken a-back, till noon, and has yawed from ENE. to NEbE, had an obſervation, variation allowed $1\frac{1}{4}$ point weſt, allowed for a great ſea from the NW. found the reckoning and obſervation agree, the courſe is E31°N. diſtance 108 miles, latitude in, is 43° 23′N. longitude made from Foſheet Point, 27° 7′E. it bearing W7°N. diſtance 392 leagues.

Winds variable all round the compaſs.

The 17th of October 1757, The firſt part moderate and cloudy weather, the middle part freſh gales and cloudy uncertain weather, with a great ſea from the NW. the latter part ſtrong gales with hard ſqualls, and abundance of rain. In PM. the ſhip yawed from NEbE.

to

to EbN. At 6, handed the mainſail; At 3 AM. the ſhip pitched very much, broke the ſtern out rigger of the machine, hauled up to the wind, and let the ſhip ſteer herſelf, cloſe reeft both the topſails and handed them, employed getting in the broken out rigger and fitting a ſpare anchor ſtock for another; At 7, ſet the foreſail; At 8, finiſhed the new out rigger, employed rigging and ſecuring it, and getting the machine in order. At noon, very hard ſqualls of wind, and variable all round the compaſs, with a conſtant heavy rain, and very uncertain weather, with a great ſea from the northward, employed pumping the ſhip; the ſhip has ſteered herſelf ever ſince the ſtern out rigger broke; At 3 AM. ſhe yawed from NNW. to NbE. no obſervation, variation allowed $1\frac{1}{4}$ point weſt, the ſhip ſteered very badly, ſhortened the diſtance 6 miles for bad ſteerage, and allowed for a ſwell from the northward, the courſe is E33°N. diſtance 62 miles, latitude in, is 43° 57′N. longitude made from Foſheet Point, 28° 19′E. it bearing W5°N. diſtance 408 leagues.

Broke the ſtern out rigger of the machine.

Fixed another out rigger for the machine.

The 18th of October 1757, The firſt part freſh gales and very uncertain weather, winds all round the compaſs, with heavy rain, the middle part hard gales and cloudy ſqually weather, the latter part d° weather, winds variable: At 2 PM. let the ſhip ſteer herſelf, ſhe yawed from NEbE. to EbN. At 1 AM. ſet the foreſail; At 3, handed the fore topſail; At 6, the gale increaſing, with heavy ſqualls and much lightning and rain, the fore ſtayſail ſplit and blew to pieces, and the foreſail being ſplit in the middle of the ſail, and the weather part of the foot rope being ſtranded, hauled up the foreſail and laid too, under the mainſail, took in the foreſail to prevent its being ſplit and blown to pieces, in the following mannner; hauled up the weather clew garnet firſt, and the weather buntline and leech line, then hauled up the lee clewgarnet, buntline and leechline, and ſquared the yard, and ſaved the ſail, without doing it the leaſt injury. At 8, ſet the main ſtayſail, bent a new mizen ſtayſail for a fore ſtayſail and ſet it; At 10, lowered down the foreyard, unbent the foreſail and bent another, and reeft and handed it; At noon, hard gales, with very heavy ſqualls of wind, hail and

Winds round the compaſs chiefly NbW. to NNW.

and rain, with a great ſea from the northward, ſet the reeft foreſail, the ſhip has ſteered herſelf ſince 2 PM. employed pumping the ſhip, had an obſervation, variation allowed, 1¼ point weſt, found by obſervation, the ſhip 4 miles to the northward of the reckoning, allowed the courſe ¼ point to the northward and ſhortened the diſtance 2 miles for bad ſteerage, the courſe EbN. diſtance 80 miles, latitude in, 44° 13′N. longitude made from Foſheet Point, is 30° 7′E. it bearing W4°N. diſtance 432 leagues.

Winds from NbW. NNW. NEbE to ENE.

The 19th of October 1757, The firſt and middle part hard gales, and cloudy ſqually weather, with a great ſea from the northward, the latter part freſh gales and cloudy weather. At 3 PM. it blew ſo hard that the jury main maſt could not bear the mainſail, lowered down the main yard and handed the mainſail, the ſhip yawed from EbN .to EbS. At 7, ſhipped a very great ſea, which ſtruck the ſhip very hard, and waſhed away the larboard main Channel rail, the ſhip going under a reeft foreſail, and ſtorm mizen made of a fore ſtayſail, as before-mentioned. At 7 AM. ſet the fore main and mizen ſtayſails, the ſhip yaws from EbS. to SE. In AM. the ſhip yaws from SEbE to SEbS. a great ſea from the NNW. At noon, freſh gales and cloudy weather, let the reef out of the foreſail, and ſwayed the yard up, employed pumping the ſhip; the ſhip has ſteered herſelf theſe 24 hours, had an obſervation, variation allowed, 1¼ point weſt, found by obſervation, the ſhip 4 miles to the ſouthward of the reckoning, allowed the courſe 3 degrees to the ſouthward, but did not lengthen the diſtance for the great ſea, on account of bad ſteerage, the courſe E18°S. diſtance 72 miles, latitude in, 43° 51′N. longitude made from Foſheet Point, is 31° 42′E. it bearing W4°N. diſtance 455 leagues.

Winds from NEbN. N. NNW to NE.

The 20th of October 1757. The firſt and middle part moderate and cloudy weather, the latter part little wind and fair weather. At 2 PM. ſet the mainſail, and ſteered the ſhip with the machine; At 3, out 2d of the topſails and ſet them, the ſhip yaws from ESE. to SE. a great ſwell from the northward. In AM. the ſhip yawed from ENE. to EbS. At noon, little wind and fair weather, employed pumping the ſhip, had

had an obſervation, variation allowed 1¼ point weſt, lengthened the diſtance 5 miles for a great ſwell from the NW. found the reckoning and obſervation agree, the courſe E17°S. diſtance 55 miles, latitude in, 43° 35′N. longitude made from Foſheet Point, is 32° 56′E. it bearing W5°N. diſtance 472 leagues.

The 21ſt of October 1757. The firſt part little wind and fair weather, the middle part calm and cloudy weather, the latter part moderate and cloudy weather. At 2 PM. unbent the foreſail and fore ſtayſail, and bent others, let the ſhip ſteer herſelf, a great ſwell from the northward, the ſhip yaws from SEbE to SEbS. At 4 AM. ſteered the ſhip with the machine; At 5, ſaw a large ſhip in the NE. quarter ſtanding to the SE. ſhe having a jury main and mizen maſt, made ſail towards her; At 8, the ſail tacked and ſtood towards us, At 10, ſhe made the ſignal for knowing each other, which we anſwered, and ſhe bore down to us; At noon, moderate and cloudy weather, joined company with his Majeſty's ſhip Devonſhire, being one of our fleet that was in the gale of wind off Louiſburgh on the 25th of September, employed pumping the ſhip, had an obſervation, variation allowed, 1¼ point weſt, allowed for a great ſwell from the northward, and found the reckoning and obſervation agree, the courſe is SE. diſtance 30 miles, latitude in, 43° 14′N. longitude made from Foſheet Point, is 33° 25′E. it bearing W6°N. diſtance 486 leagues.

Winds from NE. calm to NEbE.

Joined company with the Devonſhire, the Commodore gave her orders to keep us company.

The 22d October, 1757. The firſt part moderate and cloudy weather, with rain, the middle part ſqually, the latter part freſh gales and fair weather. In PM, the ſhip yawed from SE to SSE. In AM, the ſhip yawed from ESE to SE. At 6, made the ſignal and wore ſhip to the northward, and ſet the main ſail; At noon, freſh gales and fair weather; the Devonſhire in company; employed pumping the ſhip, ſhe ſteered herſelf all theſe 24 hours, had an obſervation, variation allowed 1¼ point weſt, found the reckoning and obſervation agree, the courſe E 36° S, diſtance 33 miles, latitude in, 42° 55′ N, longitude made from Foſheet Point, is 34° 2′ E, it bearing W 7° N, diſtance 496° leagues.

Winds from ENE. NE. E. to NEbE.

Winds from ENE. to EbN. NE. and ENE.

The 23d of October, 1757. Theſe 24 hours moderate and fair weather; At 5 PM, ſplit the main topſail, unbent it, and bent a fore top gallant ſail for a main topſail and ſet it, a ſwell from the ENE. In AM, employed filling ſalt water in the main hold in the grouud tier. At noon, moderate and fair weather; the Devonſhire in company, employed pumping the ſhip, the ſhip ſteered herſelf theſe 24 hours, had an obſervation, variation allowed 1¼ point weſt, found by obſervation the ſhip 4 miles to the northward of the reckoning, lengthened the diſtance 4 miles, the courſe is N 34° W, diſtance 83 miles, latitude in, 44° 4′ N, longitude made from Foſheet Point, is 32° 69′ E, it bearing W 4° N, diſtance 480 leagues.

Winds from EbN. to EbS.

The 24th of October, 1757. Theſe 24 hours, moderate and cloudy weather. In PM, filled 50 butts of ſalt water in the main and after hold; At 7, made the ſignal and wore ſhip to the ſouthward; At 8, made the ſignal and wore ſhip to the northward. In AM, the ſhip yawed from NE to N, a great ſwell from the eaſtward; At noon, moderate and cloudy weather; the Devonſhire in company, employed pumping the ſhip, the ſhip has ſteered herſelf theſe 24 hours, had an obſervation, variation allowed, 1¼ point weſt, found by obſervation the ſhip 19 miles to the northward of the reckoning, lengthened the diſtance 20 miles, ſuppoſed a north current, the courſe N 16° W, diſtance 64 miles, latitude in, 45° 5′ N, longitude made from Foſheet Point is, 32° 35′ E, it bearing W 1° N, diſtance 468 leagues.

Winds from EbS. to SEbS.

The 25th of October, 1757. Theſe 24 hours moderate and cloudy weather, with a ſwell from the eaſtward; In PM, the ſhip yawed from NEbN to NEbE. At 8 AM, made the Devonſhire's ſignal to ſpeak with her. At 10, brought too, and made the Devonſhire's ſignal for a boat without an Officer; At 11, received by the Devonſhire's boat a fore topmaſt ſtudding ſail boom, and ſome other ſtores we were in want of. At noon, moderate and cloudy weather; the Devonſhire in company, employed pumping the ſhip, the ſhip has ſteered herſelf theſe 24 hours, being cloſe hauled upon a wind, had an obſervation, variation allowed 1¼ point weſt, found by obſervation the ſhip 10 miles to the northward of the reckoning, lengthened the diſtance 11 miles,

ſuppoſed

ſuppoſed a north current; the courſe is N 20° E, diſtance 59 miles, latitude in, 46° N, longitude made from Foſheet Point, is 33° 4′ E, it bearing W 1° S, diſtance 475 leagues.

The 26th of October, 1757. The firſt and middle part moderate and cloudy weather, the latter part freſh gales and cloudy weather, with a ſwell from the eaſtward; At 2 PM, received from the Devonſhire, a ſpare mizen top-maſt, and ſpared her ſeven bags of bread, made ſail, the ſhip ſteered herſelf; At noon, freſh gales and cloudy weather, employed in pumping the ſhip; the Devonſhire in company, the ſhip has ſteered herſelf all theſe 24 hours, being cloſe hauled upon a wind, had an obſervation, variation allowed 1¼ point weſt, found by obſervation the ſhip 9 miles to the northward of the reckoning, ſuppoſed a north current, allowed the courſe 5° to the northward, and and lengthened the diſtance 5 miles for the current, the courſe E 41° N, diſtance 81 miles, latitude in, 46° 53′ N, longitude made from Foſheet Point, is 34° 32′ E, it bearing W 2° S, diſtance 495 leagues. Winds from SEbS. to SbE. and SSE.

The 27th of October 1757, The firſt and middle part freſh gales and fair weather, the latter moderate and hazy weather. At 6 PM. in ſecond reef of the fore top-ſail, and handed the main top-ſail; At 4 AM. ſet the main-ſail; At 9, found the main ſhot locker broke and had given way, began to clear away the birth for the ſhot in the main hold; At noon, moderate and hazy weather, employed pumping the ſhip; the Devonſhire in company, the ſhip has ſteered herſelf all theſe 24 hours; no obſervation, variation allowed 1¼ point weſt *, allowed the courſe 16 degrees to the northward, and lengthened the diſtance 13 miles, for a ſwell from the SSE. and a north current, the courſe is E48°N. diſtance 90 miles, latitude in, 48° 0′N. longitude made from Foſheet Point, is 36° 0′E. it bearing W 5° S. diſtance 520 leagues. Winds from SSE. to ſouth.

The 28th of October 1757, Theſe 24 hours moderate and cloudy hazy weather; At noon, moderate and cloudy weather, employed pumping the ſhip; the Devonſhire in company, the ſhip has ſteered herſelf all theſe 24 hours, had an obſervation, variation allowed 1½ Winds from SbE. to ſouth.

* This day's work is worked over again, and corrected by the obſervation of the 28th.

point weſt, found by obſervation the ſhip 29 miles to the northward of the reckoning, ſuppoſed a ſtrong northern current, allowed the courſe 12 degrees to the northward, and lengthened the diſtance 3 miles, and corrected the reckoning ſince the laſt obſervation, the courſe is E34°N. diſtance 74 miles, latitude in, 48° 41′ N. longitude made from Foſheet Point, is 37° 31′E. it bearing W6°S. diſtance 536 leagues.

Winds from S. SbW. to SSW.

The 29th of October 1757, The firſt and middle part moderate and cloudy weather, the latter part freſh gales and hazy weather; At 6 AM. ſteered the ſhip with the machine; At 9, in firſt reef of the fore top-ſail, ſplit the jib, got it in to repair; At noon, freſh gales and cloudy hazy weather, employed pumping the ſhip; The Devonſhire in company, no obſervation, variation allowed 1½ point weſt, allowed the courſe 9 degrees to the northward for the north current, ſuppoſing it ſtill to continue, the courſe is E8°N. diſtance 100 miles latitude in, 48° 55′N. longitude made from Foſheet Point is 40° 2′E. it bearing W6°S. diſtance 570 leagues.

Winds from SSW. to SWbS.

The 30th of October 1757, Theſe 24 hours freſh gales, and ſqually cloudy weather; At 2 PM. handed the main-ſail; At 6 AM. found the ſpans of the ſteering hawſers at the heel of the machine broke; At ½ paſt 7, brought too; and got the machine up along ſide, and hoiſted it up and examined the rigging of it, found the cable that hangs the machine ſtranded in the nip, where it is laſhed to the fore end of the machine, cut it off, ſpliced it and ſecured the cable to the machine as before, fixed new ſpans for the ſteering hawſers, employed fitting the machine for uſe. At ½ paſt 8, made ſail; At noon, freſh gales and ſqually weather, in firſt reef of the fore top-ſail, employed pumping the ſhip; the Devonſhire in company, had an obſervation, variation allowed 1½ point weſt, found the reckoning and obſervation agree, the ſhip ſteered herſelf all theſe 24 hours, * the courſe is E¼S. diſtance 120 miles, latitude in, 48° 49′N. longitude made from Foſheet Point, is 43° 5′E. it bearing W½S. diſtance 612 leagues.

Got the machine up along ſide, to repair the rigging of it.

The

* The ſhip went all theſe 24 hours, at the rate of 5 knots ℔ hour, and ſteered herſelf.

The 31ſt of October 1757, The firſt and middle part freſh gales and hazy weather, the latter part moderate and hazy weather; At 8 PM. finiſhed the repairs of the machine, and got it ready for uſe; At 6 AM. out firſt reef of the fore top-ſail, the ſhip yawed from ESE. to E. ſaw nothing of the Devonſhire; At 9, brought too, and got the machine in the water, veered it a-ſtern and fixed it in its place, ready for ſteering the ſhip; At ½ paſt 9, made ſail; At 11, bent the bower cables; At noon, moderate and cloudy weather, employed pumping the ſhip, ſaw four ſail of large ſhips in the NE. quarter, who gave us chaſe; no obſervation, variation allowed 1 ½ point weſt, the ſhip ſteered herſelf all theſe 24 hours; In AM. the ſhip yawed from EbS. to E. and went at the rate of 5 ½ knots ℔ hour for the laſt 24 hours, the courſe is E7°N. diſtance 134 miles, latitude in 49° 5′N. longitude made from Foſheet Point, is 46° 27′E. it bearing W6°S. diſtance 656 leagues, ſaw nothing of the Devonſhire.

Wind SSW.

At daylight in the morning found the Devonſhire had parted company in the night.

Got the machine ready for uſe and put it in the water.

Saw four ſail of large ſhips.

The 1ſt of November 1757, The firſt and middle part moderate and cloudy weather, the latter part little wind and hazy weather; In PM. the ſhip ſteers herſelf, a ſwell from the SW. four ſail of large ſhips in chace of us; At 4, we made the ſignal to the ſtrange ſhips for knowing each other, but was not anſwered, cleared ſhip for action; At 6, the headmoſt of the ſtrange ſhips fired a gun and hoiſted Engliſh colours, which we anſwered, by ſhewing our colours; At 8, finding the ſtrange ſhips came up with us, ſhortened ſail in order to ſpeak with them; At 9, ſpoke with his Majeſty's ſhip Dunkirk, who informed us the other three ſhips were the Torbay, Achilles, and America, on a cruize under the command of Commodore Keppel, we brought too, and made the ſignal to ſpeak with them, which they anſwered, made ſail and joined us *. At 10, made ſail in company with the ſaid ſhips; At 6 AM. ſaw 7 ſail in the NW. quarter; At ½ paſt brought too, made the Dunkirk's ſignal to ſpeak with her. The Torbay, Achilles, and America, bore down

Winds from SSW. SWbS. SbW.

* Commodore Holmes was in the Grafton, and being an eſtabliſhed Commodore, gave orders to the ſhips we had joined, to keep Company with us; he was a ſenior Officer to Mr. Keppel. The Commodore ordered the Dunkirk to take us in tow.

down to the ſhips in the NW. quarter; At 9, the Torbay made the ſignal they were Engliſh ſhips; At 10, the Dunkirk took us in tow, made ſail, ordered her what courſe to ſteer; At noon, little wind and cloudy weather, eleven ſail in ſight, employed pumping the ſhip, no obſervation, variation allowed 1¾ point weſt, allowed for a ſwell from the SW. The before-mentioned ſhips in company, the courſe is E9°N. diſtance 62 miles latitude in, 49° 15′N. longitude made from Foſheet Point, is4 8° 0′E. it bearing W½S. diſtance 680 leagues.

Winds from SSW. to SbW.

The 2d of November 1757, The firſt and middle part moderate and cloudy weather, the latter part freſh gales and cloudy hazy weather; At 1 PM. brought too for the ſhips in the NW. quarter to join us, received from the Dunkirk a main top-ſail yard and ſome cordage; At 3, joined company his Majeſty's ſhip Colcheſter, with five ſail of Eaſt Indiamen from St. Helena under her Convoy, the Devonſhire joined company likewiſe; At 4, made ſail, 12 ſail in company; At 5 AM. bent the end of our ſtream cable to the end of the Dunkirk's ſtream cable, which ſhe was towing us by, in order to give the ſhip more ſcope of cable, the Achilles took the Devonſhire in tow, by the Commodore's orders; got the top-ſail yard that we received from the Dunkirk up for a croſs jack yard, and bent a mizen top-ſail for a croſs jack, and ſet it; At noon, freſh gales and cloudy weather, the ſea very ſmooth, 12 ſail in ſight, employed in pumping the ſhip, no obſervation, variation allowed 1¾ point weſt, ſhips in company as before, the courſe is E3°N. diſtance 89 miles latitude in, ☿ account, 49° 20′N. longitude made from Foſheet Point, is 50° 16′E. it bearing W½S. diſtance 704 leagues; the Dunkirk towing us.

Joined company his Majeſty's ſhip Colcheſter and Devonſhire, with five ſail of Indiamen.

Winds SWbS. W. SSW. to SW.

The 3d of November 1757, The firſt part freſh gales and hazy weather, the middle part moderate and cloudy weather, the latter part freſh gales and cloudy hazy weather; At 5 PM. variation ☿ amplitude is, 21° 14′W. At 7 AM. the Torbay made the ſignal for having ſoundings at 90 fathoms; At 8, ſpoke the Torbay, who told us they had 90 fathoms at 4 o'clock, and 80 fathoms at 7 o'clock, made ſail; At noon, freſh gales and cloudy hazy weather, 13 ſail in ſight, 12 ſail in company, the

Had ſoundings at 90 fathoms.

the ſea very ſmooth, employed pumping the ſhip, no obſervation, variation allowed, as ℔ amplitude, two points weſt, the courſe is eaſt, diſtance 110 miles, latitude in, ℔ account, 49° 22′N. longitude made from Foſheet Point, is 53° 4′E. it bearing W 5°S. diſtance 744 leagues; the Dunkirk towing us.

Winds from SWbS. to WbS.

The 4th of November 1757, The firſt and middle part freſh gales and cloudy weather, the latter part moderate and thick foggy hazy weather: In PM. unſtowed the anchors, as we were approaching the Channel. At 9 AM. ſounded, had 65 fathoms water, white ſand, with broken ſhells; we ſuppoſed ourſelves nearly a-breaſt of Scilly, rather to the weſtward of it; At noon, moderate and thick hazy weather, only three ſail in ſight, employed in pumping the ſhip, no obſervation, variation allowed 2 points weſt, the ſea very ſmooth, the courſe E 5°N. diſtance 122 miles, latitude in, ℔ account is 49° 30′N. longitude made from Foſheet Point, is 56 8′E. it bearing W ½S. diſtance 784 leagues; the Dunkirk towing us, we ſuppoſe we have entered the Channel according to our reckoning and ſoundings.

Had ſoundings 65 fathoms.

We ſuppoſe we have entered the Channel.

Winds W. WbS. WbN. NW. NWbW.

The 5th of November, 1757. The firſt part moderate and thick heazy weather, the middle part moderate gales and foggy weather, the latter part freſh gales and hazy weather; At 3 PM, ſaw 5 ſail to the SE. ſtanding to the northward, we ſtood for them; At 4, ſpoke his Majeſty's ſhip Unicorn, who informed us the Lizard bore NEbE, 17 leagues, and Scilly bore NNW, 8 or 9 leagues; ſounded, had 58 fathoms water, coarſe ſand, the ſhips in company with the Unicorn are the Medway, Dolphin, and two other Frigates; At 6, made ſail; At 7, the Dunkirk's ſtream cable broke, that ſhe towed us by; made the hourly ſignal in a fog; From 8 to 12 the ſhip ſteered very wild, handed the main ſail, continued the hourly ſignal in a fog; From 12 to 4 AM, The ſhip ſteered very wild, lowered down the main yard; At 6, ſwayed up the main yard, and ſet the main ſail, found the Torby miſſing; the Dunkirk only in company; At 8, made the Dunkirk's ſignal to ſpeak with her, handed the main top-ſail; At ½ paſt 11, made the Dunkirk's ſignal to ſpeak with her, ſhortened ſail and brought too,

too, ſounded, had 44 fathoms water, coarſe ſand with broken ſhells, ſuppoſed ourſelves off the Eddy-Stone; At noon, very freſh gales, and thick hazy weather; in company with the Dunkirk, employed pumping ſhip, had an obſervation, variation allowed 1½ point weſt, found by obſervation the ſhip 13 miles to the ſouthward of the reckoning, corrected the reckoning and ſhortened the diſtance 20 miles for bad ſteerage, the ſhip ſteered very badly the moſt part of theſe 24 hours; the courſe is, E 23° N, diſtance 78 miles, latitude in, 50° 0′ N, lon-in, 3° 10′ W from London, longitude made from Foſheet Point, 58° 0′ E, it bearing W 6° S, diſtance 816 leagues.

Foſheet Point's Longitude from London	61° 10′ W
The ſhip's Longitude made from Foſheet Point, the 5th of November, 1757,	58. 0 E
The Ship's Longitude on the 5th of Nov. at noon, from London . .	3. 10 W

The Start Point's Latitude	50° 6′ N	Longitude from London . .	3° 45′ W
The Ship's Lat. at noon ☞ Obſ.	50. 0	The Ship's Longitude from London	3. 10 W
The Ship to the Southward of the Start . .	0. 6	The Ship to the Eaſtward of the Start	0. 35

If the ſhip is where we ſuppoſe her to be, our reckoning is very exact, we ſuppoſe the ſhip off the Eddy-Stone, but being very thick and hazy weather, could not ſee the land. *

Winds from NW. to W. WSW. to NW.

The 6th of November 1757. The firſt part freſh gales and very hazy weather, the middle part ſtrong gales with very hard ſqualls, with rain, hail, ſleet, and hazy weather, the latter part ſtrong gales and cloudy ſqually weather, with a great ſea from the WSW, we were preparing every

* It muſt be here obſerved, that we have been 5 days ſince we had an obſervation. During thoſe 5 days, the ſhip ran 595 miles without an obſervation. Nothing could juſtify this proceeding, in a ſhip without a rudder, but the following reaſoning, viz. In the 1ſt place, the weather was in general moderate, and the ſea ſmooth, the wind ſteady from the South to SWbS, and we were ſteering near to a parallel of latitude, and we were certain of the variation, we thought we could not err much in our latitude, and after a run of 600 miles, the 6th day had an obſervation, we found the ſhip but 13 miles to the ſouthward of the reckoning. All things conſidered, and the ſhip without a rudder, the reckoning is wonderfully exact.

every thing for the Dunkirk to take us in tow; At 1 PM, ſhe took us in tow, and made ſail up the Channel, directed her what courſe to ſteer; At 2, a ſhip darted upon us all at once through the haze, ſpoke her, ſhe proved his Majeſty's Ship Coventry, ſhe had juſt come out of Plymouth Sound, who told us, the Mewſtone at Plymouth Sound bore NbE, 4 or 5 leagues; At 4, ſaw the land about the Start, being NE½E, 4 leagues; At 6, the Start Point bore N½W, 3 leagues; At 8, the ſhip ſteered very wild, lowered down the main yard. At 12, the Dunkirk's ſtream cable broke, that ſhe towed us by, ſhortened ſail; At ½ paſt 2 AM, the wind flew to the NW, in a very hard ſquall with rain and hail, which broached the ſhip too with her head to the northward, handed the fore top-ſail, hauled up the fore-ſail, and braced all the yards a-back, and laid too under the mizen, and made the ſignal to lay too on the larboard tack, a great ſea from the SW, which hove the ſhip very much to the northward, was the reaſon we kept all the yards braced a-back; At 4, ſounded, had 33 fathoms water, ſtony ground; At 6, had 28 fathoms water, found the SW ſea hove the ſhip greatly to the northward; At 7, Peverel Point bore North, 4 or 5 leagues; At 8, the body of the Iſle of Wight bore NE, 4 or 5 leagues; ſwayed the main yard up, and ſet the main ſail and main top-ſail a-back, hauled aboard the lee main tack, and hauled aft the weather main ſheet, and alſo ſet the croſs jack a-back, in order to back the ſhip from the ſhore, as we could not wear her; At 10, ſaw 6 ſail of large ſhips ſtanding up the Channel; At noon, ſtrong gales and cloudy weather, with heavy ſqualls, with a great ſea from the SW, the ſhip laying too all a-back, as before mentioned. The Needle's Point bore NEbN, 4 leagues, and Dunnoſe Point bore EbN½N, 5 or 6 leagues, employed pumping the ſhip; The Dunkirk in company.

Spoke his Majeſty's ſhip Coventry.

Saw the land.

Saw the Iſle of Wight.

Lying too with all aback.

Winds from NW. WNW. NNW. NW. N. to NNE.

The 7th of November, 1757. The firſt part hard gales and cloudy ſqually weather, the middle part ſtrong gales and hazy weather, with rain, the latter part freſh gales and fair weather; At 1 PM, ſuppoſed it about low water, and there being no ebb-tide againſt us, as it had been all the fore-part of the day, we judged it a proper time to try to

wear the ſhip, in order to make ſail for St. Helen's Road; all things being ready for wearing the ſhip, we watched the ſhip's falling off, took in all the after-ſails at once, and ſet the head-ſails, wore the ſhip and made ſail, and when the ſhip was wore, we ſteered her pretty well with the machine, with a conſtant attendance to the braces of the head-ſails to favor the ſhip in her ſteerage, when ſhe was likely to broach too, by bracing the yards ſharp up either way, as it was neceſſary; by doing this, we made a ſhift to manage the ſhip pretty well. We were ſteering for St. Helen's road; At ½ paſt 5, the ſhip being as far in as we could fetch into St. Helen's road, and it blowing very hard, lowered down the lower yards, and handed the ſails, and anchored with the beſt hower, in 8 fathoms water, and veered to a whole cable, Culver Cliff, bore weſt, 3 or 4 miles, and St. Helen's beacon WNW, found riding here His Majeſty's Ship Colcheſter, with 5 ſail of Eaſt Indiamen, which were the ſhips we ſaw in the morning off Peverel Point, anchored here. The Dunkirk, * got the machine up along ſide, and hoiſted it up, to prevent its taking the ground; At 7 AM, weighed, in order to drop the ſhip further into St. Helen's road, with the ebb-tide; At 10, anchored again with the beſt bower, in 8 fathoms water, and veered to half a cable, St. Helen's Beacon NWbW, and the Culver Clift WbS; At noon, freſh gales and fair weather, employed pumping the ſhip, the Dunkirk had the Commodore's leave to go to Spithead, as ſhe could be of no further uſe to us, with regard to giving us aſſiſtance.

Wore the ſhip.

Anchored in St. Helen's Road.

Winds from NWbW. to NWbN. and N.

The 8th and 9th of November, 1757. Nothing material happened, it was moderate and fair weather; theſe two days we were employed in tide-working the ſhip, as wind and weather would admit, further into St. Helen's road, in order to get her towards Spithead, by backing and filling the ſhip in upon the ebb-tide, as we could not turn to windward; we were further employed in pumping the ſhip, which makes at the rate of 2 feet water ℔ hour.

In St. Helen's Road.

The

* I muſt here take notice, that the Dunkirk, ever ſince ſhe has been in company, and during the time ſhe had us in tow, has been very attentive to us, and is the only ſhip that has kept us company in our diſtreſt condition.

The 10th of November, 1757. The firſt part moderate and hazy weather, with rain; At 8 AM, weighed and came to ſail, and backed and filled the ſhip through the Channel, between the buoys into Spithead, ſaluted the Admiral with 13 guns; At 11, anchored with the beſt bower, at Spithead, in 13 fathoms water, and veered to ½ a cable, the Kickers NbW, and South Sea Caſtle NEbN. Found riding here, His Majeſty's Ship Royal Anne, Vice Admiral Knowles, of the Red, with a great number of His Majeſty's Ships, amongſt which were ſeveral of our ſquadron, who were in company the 25th of September off Louiſburgh in the ſtorm, ſome of them had not been arrived more than a day or two before us. The middle and latter part ſtrong gales and cloudy weather, with rain, repeated the ſignal to ſtrike yards and top-maſts, lowered down the lower yards, ſtruck the broad pendant, employed pumping the ſhip. *

Winds SW. W. and WSW.

Anchored at Spithead.

From the 10th of November, to the 17th, 1757, We lay at Spithead, and this day we received orders to go into Portſmouth Harbour.

The 17th of November 1757, moderate and cloudy weather, winds WbS. to W. came on board a Pilot and Dock Launches, to aſſiſt the ſhip into Portſmouth Harbour, employed one of the launches in hanging the outer part of the machine, in order to keep it clear of the ground; At 1 PM. weighed and came to ſail, and ſteered the ſhip with the machine and ſtood for Portſmouth Harbour; At 2, anchored in the Harbour; At 3, ſlipped the ſmall bower and took in the moorings, ſent the machine we had ſteered the ſhip by a ſhore to the yard.

Anchored in Portſmouth Harbour.

I muſt here beg leave to obſerve, that on the 25th of September, we had the violent ſtorm off Louiſburgh, where the Grafton was in great diſtreſs by the loſs of her rudder and maſts, and was very leaky, and otherways in great diſtreſs, which was truly diſcouraging, and really diſheartening, to think of making a voyage from America to England

Remarks on our paſſage.

* Notwithſtanding there was a large fleet at Spithead, we had no boats come to our aſſiſtance, but the Royal Anne's long boat, ſhe being the Flag-Ship.

with a ſhip in ſuch a condition, but we had no other alternative, and by the bleſſing of Providence and our own endeavours, we brought the ſhip acroſs the Weſtern Ocean, the diſtance of near 1000 leagues, in 43 days, from being very near the breakers off Foſheet Point, the 25th of September. We anchored in St. Helen's Road, the 7th of November 1757, and made our paſſage within 2 or 3 days as ſoon as the reſt of our ſquadron, who were leſs diſabled than ourſelves.

Compariſon between the Grafton's and Elizabeth's machines.

I ſhall here obſerve, that I have not in the narrative of the Grafton's diſtreſs, ſaid any thing of the nature of the machine, or the dimenſions of it, that we ſteered the ſhip by, after the loſs of her rudder, and ſhall now give my reaſons for not doing it, which are, as I have before given a full deſcription, with the dimenſions of the machine we ſteered the Elizabeth by, when ſhe loſt her rudder, which machine was nearly ſimilar to that we made to ſteer the Grafton by, with this difference, that the blade or key part of the Elizabeth's machine was ſomething larger, with ſome other improvements that I made upon the Grafton's, and as I was in both ſhips, and had the conſtruction of both the machines, the Elizabeth's was the moſt compleat, by which we ſteered her much better than we either could or did the Grafton. This induced me to give a deſcription of it in the manner I have done, though the Grafton's was the firſt in uſe, ſhe being diſabled by the loſs of her rudder, in the yeer 1757, and the Elizabeth did not loſe her rudder till the year 1764.

The Reader will pleaſe to obſerve, that I have here given a full deſcription of the diſtreſs of two of his Majeſty's Ships of the third rate, by the loſs of their rudders, and the great diſtance they were brought acroſs the Ocean without a rudder, and being otherways greatly diſtreſſed, in diſtant and remote parts of the Globe. The Grafton was brought from the place of her diſtreſs, the diſtance of 1000 leagues to England; and the Elizabeth was brought from where ſhe met with her diſtreſs, between 600 and 700 leagues, to the Cape of Good Hope, through the merciful goodneſs of Providence, and the indefatigable and firm perſeverance of the Officers and Seamen which compoſed the ſhip's companys of the ſaid ſhips, in preſerving their own lives, and

ſaving

ſaving two ſhips of the third rate, which was of great conſequence to their King and Country, and reflects great honour to themſelves, and in my opinion, deſerves to be handed down to poſterity as an example worthy of remark, and may be an incitement to others in the like diſtreſſed ſituation, which I pray God forbid they never may be in.

When I conſider all the circumſtances of the diſtreſs of the Grafton and Elizabeth, as mentioned in the narrative I have already given, I am ſtruck with amazement, that Government at that time did not ſee that extraordinary ſervice in the light I think they ſhould have done, and that they ſhould have conſidered the good or ill conſequences that was likely to happen to the ſervice, through ſuch inattention to the Commanders, Officers, and Seamen, who compoſed thoſe ſhips companies, and were in ſuch diſtreſs. I muſt beg leave to ſay, the generality of men would perhaps have ſunk under the idea of the woe and diſtreſſed ſituation that they then experienced, and would have given themſelves up for loſt, as ſome have ſince done under circumſtances nearly ſimilar, though not exactly ſo, which perhaps, by the exertion of the Officers and people might have been prevented, or not to have happened. I am humbly of opinion, that ſome kind of gratuity, with the honourable teſtimony of Government mentioning the particular ſervices they had performed, ſhould have been tranſmitted to thoſe *Brave Men*, for their extraordinary ſervice, and ſure I am, it would have had a good effect on the preſent age, and ſhould have been put upon record, and handed down to poſterity, by way of incitement to Officers and Seamen employed in the King's Service, and if they did not chuſe to give any gratuity to thoſe deſerving men, ſurely it would have coſt but little to have tranſmitted their names down to poſterity, giving them the honor that was their due.

The Author, who was in both theſe ſhips as Maſter, and was an Officer in the Navy at that time, of many years ſtanding, * had his ſhare of that unpleaſant ſervice, as well as the trouble, anxiety, and fatigue, of both body and mind, in conducting and managing thoſe ſhips in their

* The Author had been 18 years at that time in the ſervice.

their diſtreſs, in which he had a great ſhare, and at this day lives unnoticed, and unrewarded for that particular ſervice †.

I therefore hope, what I have related of the two ſhips before-mentioned, will be of uſe to ſeamen in general, and when at any time it may fall to their lot, to experience diſtreſſes ſimilar to thoſe I have mentioned, I hope that the ſame expedients that we tried, may in ſome meaſure be of uſe to them, ſtill leaving to the ingenious and good ſeaman to improve upon the expedients that we were fortunate enough to fall upon, which anſwered our end and purpoſe; for which we were thankful to God.

I muſt here beg leave to introduce an inſtance or two of what I call maſterly ſtrokes of ſeamanſhip, which I think deſerve to be handed down to poſterity, as great acts of ſeamanſhip, though ſome part was done by foreigners, yet merit ought to have its due, and is what I much admire wherever it is found, whether in Natives or foreigners.

The thing I am about to mention is recorded in Hiſtory, and is well worth the notice of ſea-faring men in general. In Queen Anne's reign, it is well known that the Engliſh and Dutch were in alliance; at that time a Dutch Admiral, with a ſquadron of Men of War and a large Convoy, ſailed from the Downs for Portſmouth; between Beachy Head and the Iſle of Wight they met with a Squadron of French Men of War of ſuperior force to themſelves, who it is ſuppoſed had been ſent to intercept the Squadron and Convoy, and brought them to action, and a very ſevere engagement enſued. The French Squadron being ſuperior in point of force, the Dutch Squadron of courſe ſuffered much, and were in danger of being taken with their Convoy. In this diſagreeable ſituation, it is to be ſuppoſed the Dutch Admiral had

† The Author, inſtead of being rewarded for his faithful and long ſervices, has been ſufficiently mortified, by ſeeing Junior Officers in his Line of Service preferred before him, to places more lucrative than that which he enjoys, which he thinks an hardſhip, and an inadequate reward for his long ſervice: this puts him to the exerciſe of his Chriſtian patience, and verifies the old ſaying, A man may deſerve good fortune or good luck, but cannot command it. —Such is the will and pleaſure of the Great.

had enough to employ his mind, but like a truly brave man in the height of danger, who is never at a loſs for an expedient how he can diſengage his Squadron from a ſuperior force of the Enemy, who had ſhattered and diſabled them, and were in great danger of being taken. At this juncture of time a noble thought came into his mind, he recollected the wind was eaſterly, and that there was a ſtrong ebb tide ſetting to the weſtward, and that he had the weather gage of the Enemy; he immediately made the ſignal for his Squadron to anchor, which was inſtantly obſerved and obeyed, by this manœuvre he was immediately diſengaged from the Enemy, who had drove far from him by the wind and tide; and night coming on, the Dutch Admiral and his Squadron got clear of the French. This I call a maſterly ſtroke of ſeamanſhip, and for which I give the Dutch Admiral great honour.

An Account of the Royal James's Engagement with the Dutch Fleet, the 28th of May, 1672. She had the Earl of Sandwich's Flag on board her.

This is another maſterpiece of ſeamanſhip, and is worthy of remark, and imitation.

The following is a copy of Sir Richard Haddock's account, given to His Royal Highneſs the Duke of York, of their engagement the 28th of May 1672 in the Royal James, with the Earl of Sandwich's flag on board.

SIR,

" In obedience to your Royal Highneſs's commands, I here humbly preſent to your view, a brief narration of our action on board the Royal James, the 28th of May laſt, as followeth.

" Upon a ſignal from our ſcouts, of the Dutch fleet's approach, we put our ſhips immediately into a fighting poſture, brought our cables to the capſton, and heaft a peak of our anchor, which upon firing a gun, and looſing fore topſail of your Royal Highneſs's Ship, we preſently weighed, and afterwards lay kedging, with our headſails to the maſt until our anchor was up, which done, we made ſail and ſtood off, ſteering NEbN. with our ſignal abroad for the Squadron to draw

Between 3 and 4 in the morning.

Winds EbS.

draw into their Line of Battle, which was done as well as the ſhort time we had would permit, but finding myſelf one of the weathermoſt ſhips, I bore to leeward, till I had brought ourſelves in a line. The Vice Admiral, Edgard, part of the diviſion right a-head, the Rear Admiral and his diviſion, right aſtern, * only two or three Frigates to leeward, one of them within call. The Dutch Squadron, Van Ghent, attacked us in the body and rear, very ſmartly, let the Van go a-head without engaging them for ſome time, as far as I could percive, we engaged about an hour and half very ſmartly, when the Dutch found they could do no good on us with their Men of War, they attacked us with two Fire-ſhips, the firſt of which we fired with our ſhot, the ſecond diſabled by ſhooting down his yards, before which time I had ſent our barge, by my Lord's command, a-head to St. Joſeph Jardaine, to tack with his diviſion to weather the Dutch that were upon us, and come to our aſſiſtance, our Pinnace I ſent likewiſe a-ſtern, to command our ſhips to come to our aſſiſtance, which never returned, but were on board ſeveral who endeavoured it, but could not effect it; about 2 hours after we were engaged, we were boarded athwart hawſe by one of their Men of War, notwithſtanding our endeavours to prevent her, by wearing our ſhip two or three points from the wind, to have taken him along ſide. When he had been athwart our hawſe ſome ſhort time, my Lord would have had me boarded him with our men and taken him, which I refuſed to do, giving him my reaſons; † That it would be very diſadvantageous to us, Firſt, that I muſt have commanded our men from our guns, having then I believe three hundred men killed and wounded, and could not loſe leſs than 100 men in taking him. Secondly, if we had ſo done, we could not have cut him looſe from us, by reaſon that the tide of flood bound him faſt; and Thirdly, had we plied our guns ſlowly, by taking away our men, we had then given cauſe to the enemy to believe we had been diſabled, and conſequently

Both Coxſwains ſtill living.

* Here the Line of Battle was formed, the Royal James in her ſtation, with ſhips a-head and a-ſtern of her.

† A good and officer-like reaſon given for not complying with my Lord's requeſt.

ſequently more of them would have boarded us, and would have been more diſhonorable to have loſt her by that means, than being at laſt burnt, ſo that my Lord was ſatisfied with my reaſons, and reſolved that we ſhould cuff it out to the laſt man, ſtill in expectation of aſſiſtance. * About 10 o'clock, Van Ghent himſelf, finding that his other flags could do no good upon us, nor the party with him, came up with us himſelf, we had loſt the conduct of our ſhip, he ranged along our ſide, gave us a ſmart volley of ſmall ſhot and his broadſide, which we returned with our middle and lower tier, our upper deck guns almoſt all diſabled, and the men killed at them, he paſſed a-head of us, and brought his ſhip too to leeward, and there he lay till I was gone off the deck. Some ſhort time after Sir Joſeph Jardaine, (our barge having been with him and given him my Lord's commands) paſſed by us very unkindly to windward, with how many followers of his diviſion I remember not, and took no notice of us at all, † which made me call to mind his ſaying to your Royal Highneſs, *when he received his commiſſion*, that he would ſtand between you and danger, which I gave my Lord an account of, and did believe by his acting, *yourſelf might be in his view*, in greater danger than we, which made my Lord anſwer me, we muſt do our beſt to defend ourſelves alone. About 12 o'clock I was ſhot in the foot with a ſmall ſhot, ſuppoſed out of Van Ghent's main top, which preſſed me, after ſome ſmall time, to go down to be dreſſed; I gave my Lord an account of it, and reſolved to come upon deck again as ſoon as I was dreſſed, In the mean time, when I went off the deck, ſent up both Sir Charles and Lieutenant Mayo, to ſtand by my Lord, and as ſoon as I came down, I remembered the flood was done, I ſent up to my Lord, to deſire him to command

* Here the Royal James appears to be in great diſtreſs, and in want of aſſiſtanee, what became of the ſhips of her own diviſion, and more particularly the ſhips that were her ſeconds, a-head and a-ſtern of her, ſhe being an Admiral ſhip, how it happened that they did not ſtay by her and ſupport her, is a moſt extraordinary circumſtance.

† Sir Joſeph Jardaine paſſing by the Royal James at this juncture, when he received my Lord's commands to come to his aſſiſtance, is an extraordinary proceeding, and he ſeeing the Royal James in ſuch diſtreſs, it was his duty to have gone to her aſſiſtance, if he had, he would in all probability have ſaved her. This is likewiſe a proceeding I cannot account for.

command the ſhip to anchor by the ſtern, which was immediately done,* and after we had brought up the ſhip athwart, our hawſe fell away, and being entangled with our rigging, our men boarded and took her, and cut her looſe from us, and at my Lord's command returned all on board again, upon which, I hearing the ſhip was looſe, ſent up to my Lord that the cable might be cut, and the ſhip brought to ſail before the wind, and looſe our main ſail, which was preſently done, then my Lord ſent me his thanks, for my advice, and withall doubted not to ſave the ſhip; at that time the Surgeon was cutting off the ſhattered fleſh and tendons of my toe, and immediately afterwards we were boarded by the fatal fire-ſhip that burnt us." †

Having conſidered every part of this engagement with reſpect to the Royal James, and the management of her Admiral, Captain, and Officers, I am of opinion they acted very much like brave men and good Officers, but I am ſorry to ſay they were badly ſupported, and it is a great pity ſo brave an Admiral, Officers, and Seamen, after the great ſtruggle they had made in the action, ſhould have fallen a ſacrifice to the Enemy, after they had ſo nobly endeavoured to defend their ſhip and ſelves. This reflects great honour on their memory, they deſerved a better fate, and very juſtly, their Country's applauſe.

In the year 1735, Admiral, Sir John Norris, was at Liſbon, with a fleet of Engliſh Men of War, conſiſting of 25 Sail of the Line, and a number of Frigates, &c. as the Tagus is a place where the ſeaworm very

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* This was a maſterly ſtroke of ſeamanſhip, which I greatly admire, the anchoring the ſhip by the ſtern at that juncture, anſwered ſo great an end, and for which they deſerved great honor.

† The original intention of an Admiral having a ſecond a-head, and a-ſtern of him in time of action, with him and the enemy was, that the Admiral ſhould be well ſupported by his ſeconds, that he might not be too hard preſſed by the enemy, or be in danger of being deſtroyed or taken by them, which is reckoned a National diſhonor; therefore the ſeconds to the Admiral ſhould be capital ſhips, and commanded by experienced and brave Commanders, who are equal to the truſt that is repoſed in them. This ſeems not to have been the caſe with the Royal James, or ſhe would not have been deſerted in the diſtreſſed ſtate ſhe was reduced to, and at laſt deſtroyed by the enemy.

very much affects ſhips bottoms, and as the fleet lay long in that river, it became neceſſary to heave ſeveral of the ſhips down, and there being a commodious hulk there for that purpoſe, which the Portugueſe had for the conveniency of heaving down their own ſhips, ſhe was made uſe of by the Engliſh fleet alſo. The Britannia, a firſt rate, being the ſhip that Sir John Norris had his flag on board of, was ordered to be hove down, and went along ſide the hulk for that purpoſe; whilſt ſhe was along ſide the hulk, it ſo happened, that the hulk was found to be on fire, whether by accident or deſign, we do not know, but it was believed the latter, in order to burn the Britannia. This accident cauſed a great alarm in the fleet, which brought immediate aſſiſtance to her, and ſhe was got off from the hulk, the fire was by this time got to ſuch a head, that it was impoſſible to exſtinguiſh it, and it was feared, as ſhe burned, that when the fire came to her cables, ſhe would break adrift and drive amongſt the Engliſh Men of War, the wind blowing ſtrong northerly, as it generally does in the afternoon, which is acroſs the river, and it happened to be ebb-tide, which added to the apprehenſion of driving amongſt the Engliſh Fleet. A Dutch Man of War, who happened to lie at a ſmall diſtance a-head of the hulk, to the eaſtward of her, or above her; a noble thought ſtruck the Dutch Commander, which was as follows, he got a hawſer out of each of his gun-room ports, and bent them, to hand and chain grapnels, and ſent the boats with them, and threw them into the hulk, who by this time was all in flames. As ſoon as the fire-grapnels were faſt, he ſecured the hawſers in his own ſhip, and immediately cut the hulk's cables, ſet all his ſails and ſlipped his own cables, made ſail, and towed the hulk clear of all the ſhips a-croſs the river, which is very broad, to Old Liſbon ſide, clear of all the ſhipping, where he caſt her off, it being the lee-ſhore, where ſhe drove a-ground and burnt till ſhe ſunk, he then made ſail and regained his former anchorage. This I call a capital piece of ſeamanſhip, and a gallant action, for which the Dutch Commander deſerves great honour and praiſe. This action ſhewed him a man of great merit, I could almoſt envy him the credit he acquire din the performance of this

great piece of ſervice, and muſt ſay, I am ſorry it was not performed by an Engliſh Officer, of which there were great numbers in the place at that time, which were much more interreſted in the ſafety of the Britannia, and the Britiſh fleet, than the Dutch Officer could be, but men of genius and ready thought will ever ſhine.

As I am a great admirer of ſeamen who perform acts of ſeamanſhip, either in time of action with the enemy, or in ſtormy weather, I ſhall juſt beg leave to mention one inſtance more of prudent management and good conduct in an Engliſh Officer, by way of incitement to others. On the 25th of September 1757, the day we were in great diſtreſs in the Grafton, as related in page 244, where we loſt our maſts and rudder. About an hour before we ſaw the breakers, we perceived through the haze, cloſe upon our weather quarter, a ſhip under a reeft main-ſail, and ballanced mizen, who, upon ſeeing us with our main and mizen maſts gone, and they finding that they fore reached upon us, and that they could not weather us, they hauled up their main-ſail in a ſeaman like manner, without ſplitting it, and ſquared their main yard, which backed them a-ſtern of us; and as the wind veered to the ſouthward, which it did ſoon after, they became right a-ſtern of us, and by degrees upon our lee quarter; they ſet their main-ſail again, and when we firſt ſaw the breakers, this ſhip was upon our lee beam; they very dextrouſly hauled their main-ſail and mizen, ſet their fore-ſail, and quickly wore their ſhip, and ſtood off ſhore. The whole proceedings of their ſhip * was managed with prudence, conduct, and good ſeamanſhip, and ſhe received not the leaſt injury from the ſtorm. I wiſh I could ſay as much for the ſhip I was in †, who was alſo a public ſhip. I muſt beg leave to mention a general rule I have made, and have generally found it to be right, which is, that the beſt diſciplined ſhips ſuffer

* The Newark, Admiral Holbourne, who was an excellent ſeaman. I admire his conduct that day, which was worthy of imitation, he being the Commanding Admiral.

† The Grafton, Commodore Holmes, with a Captain under him.

ſuffer the leaſt in bad weather, and meet with the leaſt diſaſters in general.

Some Remarks worthy the notice of Seamen in general, with reſpect to two Ships ſent on ſervice at the ſame time.

I mean here to ſhew how differently they acted, which ſhews the different ideas of ſeamen, though upon the ſame actual ſervice, when the one ſhip may get credit, and the other diſrepute.

At the ſiege of Manila, 1763, while our army on ſhore were employed carrying on their approaches, in order to raiſe faſcine batteries againſt the enemies works, with an intention to make a breach, the General applied to the Admiral, requeſting that two ſhips might be ſent in, and placed againſt that part of the enemies works, oppoſite to which we were raiſing our faſcine batteries, in order to take their attention from the people employed in our batteries, and if it could be done, to place the ſhips ſo, that they might enfilade the face of their batteries and works, to prevent as much as poſſible the enemy annoying our people in the trenches. It was a received opinion, that a Line of Battle Ship could not go within cannon ſhot of their batteries; the Admiral ordered that part of the Bay, where the ſhips were wanted to go, to be carefully reconnoitred by the Maſters of the Ship's who were intended to go on this ſervice, if it could be found practicable. I accordingly was ordered on this ſervice, and in the night we ſet out on our reconnoitering party; my Captain ſignified his wiſh to go with me, and did me the honour of his company, the other ſhip's boat, with her Maſter and Captain with him; we ſat out together about midnight, I could readily have excuſed the other ſhip's boat and her Captain from keeping us company, but we ſoon parted, we going much nearer the enemies works than he approved of, by which we got rid of him, and continued our buſineſs with great ſatisfaction.

Ordered to reconnoitre Manila by ſea.

The method I took to perform this important piece of duty was, I ſteered or rowed along the ſhore, with a lead and line on each ſide, conſtantly ſounding, and kept in about 2 feet water more than the ſhip drew, and in about every half cable's length I dropt a fire plug with a piece

Employed founding off Manila.

piece of line, and a double headed ſhot to ride it, and continued to do this as I went, having provided a number of fire plugs and ſhot for that purpoſe, and when I had found the moſt convenient place for the ſhip to lie for annnoying the enemies batteries, I dropped a ſmall wooden buoy, with four double headed ſhot to ride it; having by this means of placing our buoys, as I ſhall now call them, which ſhews the track the ſhip may run down by, and the larger buoy ſhews were the ſhip is to be placed to annoy the enemies batteries, and I afterwards put a ſpar down, where I had placed the buoy, and put a ſmall onion baſket upon it, which made an excellent beacon to ſhew where the ſhip was to be placed. In the mōrning I ſent my report to the Admiral, that two ſhips could be placed near enough to do good ſervice in annoying the enemies batteries, in the manner the General wiſhed, but how different was the report made from the ſhip, whoſe boat had been reconnoitering with us, which was, that a ſhip could not come near enough to be of any ſervice at all; however, the Admiral immediately determined upon it, and ordered the ſhips E .... and F .... to prepare to go in, to cannonade the enemies batteries, in order to divert their attention from our army in the trenches, and thoſe who were raiſing our faſcine batteries, and we accordingly prepared our ſhip the E .... for that ſervice, got all our booms and raft out of the ſhip, which I thought needleſs, by way of clearing the ſhip; the whole of which were afterwards loſt in the ſtorm.

The Author's method of reconnoitring by ſea.

Winds WSW. We took care to run down, ſo as to keep our broadſides to bear upon the enemies batteries, and anchored off the SW baſtion of Manila by the ſtern, and were cautious that the ſhip ſhould not alter her poſition, until ſhe was placed where it was intended to carry on the cannonade.

The 30th of September 1762, Moderate and cloudy weather, In 3 PM. weighed, and ran down to the City of Manila; At 40 minutes paſt 3, anchored in 4 fathoms water of the SW. baſtion, with the coaſting anchor, the cable out of the ſtarboard gun room port, and veered to half a cable, and then let go the ſmall bower and took in the ſails, and veered away to a whole cable on each, the wind being upon our larboard beam, and blowed right upon the ſhore and the enemies Batteries; we carried out the Norfolk's ſtream anchor and cable, right towards the NW. baſtion, in order to heave the ſhip further in towards the batteries, and hove her a cable and a third further in ſhore, nearer

the

the SW. baſtion, carried out the ſtream anchor and cable on the ſtarboard quarter, in order to ſteady the ſhip and to keep her broadſide to the batteries; we had then 4 fathoms water, and was as near the enemies Batteries as we could go, and the ſhip was ſteadied in the following manner, viz. the ſmall bower on the larboard bow, with a hawſer for a ſpring, faſt to the ring of the anchor, and taken in at the larboard gun room port, the coaſting anchor on the larboard quarter, the cable out of the ſtarboard gun room port, with a hawſer for the ſpring, faſt to the ring of the anchor, and taken in at the larboard hawſe, a ſtream anchor and cable on the ſtarboard bow in ſhore, and a ſtream anchor and cable on the ſtarboard quarter. Thus was the ſhip ſteadied, that ſhe could not be diſplaced, with her broadſide to the enemies Batteries. At 5 PM. began to cannonade the SW. baſtion * and the City of Manila and found our ſhot did good ſervice, they did not only reach their batteries, where they did great execution, but reached all over the City, did great damage to the houſes, which alarmed the enemy very much, as it gave them great trouble and uneaſineſs † they began a pretty ſmart fire upon us from their ſeveral baſtions. ‡

The ſhip was ſteadied in ſuch a manner, that ſhe could not alter her poſition, with her broadſide to the enemies batteries.

About three quarters of an hour after we anchored, came down and anchored about as far without us, as we were from the SW baſtion, his Majeſty's Ship F..... ſhe bore W½N. of us, ſhe anchored without a ſpring upon her cable or to her anchor, and ſwung with her ſtern right to the enemies Batteries, but was in no danger of being hurt by them, as their judgment had directed them to keep at a proper diſtance, which they ſtedfaſtly perſiſted in, notwithſtanding all that was ſaid, or all the orders they received on that head. Here they continued all the ſiege.

Some

* This was the baſtion oppoſite our faſcine batteries, which we were raiſing.

† We diſmounted ſeveral of their guns at the SW baſtion.

‡ Captain (late Admiral) Kempenfelt, came on board, by order of the Admiral, who very much approved of the ſituation in which we had placed our ſhip in, to annoy the enemies batteries, which he ſaid was judiciouſly performed.

Some Remarks on our proceedings whilſt we were in, againſt the batteries of Manila.

Winds WSW.

Came on a very violent ſtorm, and how they acted in that caſe.

The 1ſt of October 1762, At 2 AM. it began to blow ſtrong gales right upon the ſhore and the batteries, accompanied with a torrent of rain, which ſoon afterwards increaſed to a violent ſtorm, and put the ſquadron in great danger. We were obliged to let our ſhip ſwing head to wind, and ſhifted our coaſting cable, from the gun room port forwards to the hawſe, and hove in upon it, to the whole cable ſervice, and rode between the ſmall bower and the coaſting anchor, got down the top gallant yards and maſts upon deck, lowered the lower yards, continued to cannonade with what guns we could bring to bear, riding with our ſtern to the batteries. The enemy fired pretty briſkly at us, but their ſhot was not well directed, which was fortunate for us.

Winds WSW.

The 2d of October 1762, Very hard gales of wind, with frequent violent hard ſqualls, much rain and dark cloudy hazy weather, and a great ſea from the SW. * At 4, PM. ſtruck our yards and topmaſts, as did the Admiral and Squadron; At ½ paſt 5, let go the beſt bower anchor, and veered away a whole cable on the ſmall bower and coaſting cable, having then the third of a cable on the beſt bower, and rode with three anchors a-head. At daylight, ſaw the South-Sea Caſtle Storeſhip a-ſhore, with her foremaſt gone; a continual firing of ſhels from

* It is to be obſerved, in this ſtorm we rode with our ſhip's ſtern to the enemies batteries, who fired pretty briſkly at us; we had only our ſtern chaſe to fire at them, viz. our ſhip had two ports made in the ward room, in which we had two of our upper deck guns, which we kept well employed; we had two of the quarter deck guns out of the great cabin, which went through the ſtern gallery, which we alſo kept well employed; theſe were all the guns we could bring to bear. It was propoſed to get two of the lower deck guns out of the gun room ports to fire at the enemy, which I prevented, by ſaying, it would ſhatter the ſhip's ſtern all to pieces; which I knew by experience.——I mention this, that it may be known to all men, that nothing ſhould induce them to fire a lower deck gun out of the gun room ports; ſo ſure as they do, they will ſhatter the ſhip's ſtern all to pieces, by reaſon of the overhanging of the counter, which cauſes the reſiſtance of the exploſion of the powder from the muzzle of the gun, and will produce the effects I have juſt mentioned.

from our batteries into Manila, the enemy keeping up a ſmart firing on our batteries; At 8 AM. the enemy fired briſkly at us, which we returned with what guns we could bring to bear, got down the top-ſail yards upon deck, and alſo the croſs jack yard, got the ſpritſail in, fore and aft, and rigged in the jib boom, and lowered the top-maſt cloſe down with the croſs trees on the caps of the lower maſts, unrigged the top-maſts, and lowered the lower yards down on the gunwale, and made the ſhip as ſnug as poſſible. At noon, a moſt violent gale of wind with a great ſea; we ride with three anchors a-head, the ſhip rides hard, ſtrains, and makes much water, ſo as to keep all the pumps going. The Quarter-maſters and ſome people were continually employed in putting ſervice on the cables, and frequently freſhening the hawſe; we find the ſtorm has increaſed the depth of water from 4 to 4½ fathoms, full three feet perpendicular; we expected every moment the ſhip would ſtrike the ground, when ſhe pitched ſo deep as to bring the rails of the head in the water, every pitch ſhe raiſed the mud from the bottom, the ground being very ſoft; we did not perceive her ſtrike, though ſome people ſaid ſhe did. If ſhe had once ſtruck the ground, ſhe muſt inevitably have been wrecked, being a very old, ſhattered ſhip; it was what the Fleet and Army expected, they were in pain for us, we could not give the ſhip a greater ſcope of cable, on account of her being ſo near the ground.

The 3d of October, 1762. The firſt part hard gales and cloudy weather, with a great ſea from the SW, the middle and latter part moderate and hazy weather. A 4 PM. the weather began to be moderate. At 8, it was quite moderate; At ½ paſt 10, weighed the beſt bower; At 12, weighed the coaſting anchor; At 2 AM, hove in to half a cable on the ſmall bower, and carried out our ſtream anchor and cable, and three hawſers on an end to the SW, in order to new birth the ſhip a little farther to the northward, that we might more effectually cannonade the batteries and city of Manila; At 5, our faſcine batteries with cannon were opened againſt Manila, and fired with great briſkneſs againſt the SW baſtion, which the enemy returned from the SW and SE. baſtion; At 6, hove the ſhip up by the ſpring, and veered away

Winds from SW to S and SSE.

on the ſmall bower to one cable and three quarters, and hove on the Norfolk's ſtream anchor and cable that lay towards the north baſtion, and hove the ſhip cloſe in to the batteries, having then 4 fathoms water, the ſhip being placed with her broadſide to the SW baſtion, and could begin to bring our guns to bear on moſt part of the city, and different parts of their works; At ½ paſt 6, we began to cannonade the SW baſtion and other parts of their fortifications, and city of Manila. We ſoon ſilenced the SW baſtion from firing at our batteries, the enemy fired pretty briſkly on us, but their fire was not well directed; a great part of their ſhot went over us, many fell ſhort, and but few ſtruck us; continued cannonading till noon, at which time the weather looked very cloudy and ſqually to the weſtward. *

Winds from SbW, SW. to Weſt.

The 4th of October, 1762. Theſe 24 hours very freſh gales, with hard ſqualls and abundance of rain; At ½ paſt noon, it blowing ſtrong, with heavy ſqualls, could not keep our broadſide to the enemies batteries, the wind blowing right on them, left off firing, and veered away on the ſpring of the Norfolk's ſtream cable, and let the ſhip ſwing head to wind, and hove off by the ſmall bower, hove in to half a cable; At 6 PM, it blowing hard, with heavy ſqualls of rain, let go the beſt bower anchor, and wore away to a whole cable on the ſmall bower, had then one third of a cable on the beſt bower, had 4¼ fathoms water; At 10 AM, being more moderate, hove up the beſt bower anchor; At 11, carried out our ſtream anchor and cable, with two hawſers on an end, in order to heave the ſhip further to the northward, hove up the ſmall bower, and warped the ſhip further to the northward; At noon, hove up the ſtream anchor, and let go the ſmall bower, and veered away to one third of a cable; we were now in 4¾ fathoms water; a briſk firing from our batteries into Manila.

Nine of our lower deck guns diſmounted by the axletrees of the carriages breaking, from the continual firing.

The Officers and ſhip's company very much fatigued with hard duty, night and day, and being continually wet, and all the people's hammocks ſtowed in the netting, where they have been ſince the 30th of Sept.

The 5th day of October, 1762. Theſe 24 hours very uncertain weather, winds variable, with very hard ſqualls of wind and rain, in general

* The General ſent off a Field Officer to thank the Commodore for the great ſervice our ſhip had been to them on our cannonading the place; Colonel Monſon being the Field Officer.

general it was very freſh gales, with ſome ſhort intervals of moderate weather. At 2 PM, received orders to quit our ſtation, to warp out and join the ſquadron; At 7, it began to blow hard, and the weather looked very threatning, let go the beſt bower anchor, and veered away to a whole cable on the ſmall bower, and a large third of a cable on the beſt bower; A 2 AM, carried out the ſtream anchor and cable, and two hawſers on an end to the SW, in order to warp our ſhip off; At 5, began to heave a-head on the bowers, in order to weigh, but it coming on to blow ſtrong gales with much rain, veered away the cables as before; the latter part hard gales, with frequent ſqualls and a conſtant rain; a ſmart firing in the night from our batteries into Manila, the enemy's fire was very ſlack, our batteries have made a breach in the SW baſtion, which ſeems practicable, two of their guns have fallen from the battery down the breach, which is very wide.

Were ordered to leave our ſtation and join our ſquadron.

Very ſtormy weather.

A breach made in the SW baſtion.

The 6th day of October 1762, The firſt and middle part freſh gales and much rain, the latter part ſtrong gales and hazy weather, it blowing ſo hard, and the weather being ſo uncertain all theſe 24 hours, have had no opportunity of warping the ſhip further off ſhore. In PM. and in the night, there was a ſmart firing from our batteries, of ſhot, ſhells, and ſmall arms, which the enemy returned but ſlackly; At break of day there was a very briſk firing from our batteries into the breach of the SW. baſtion, which ſeems very large and practicable, the enemy returned ſome ſhot, and vollies of ſmall arms; At 7 AM. ſaw our army ſtorm the breach of the SW. baſtion, a detachment of Seamen entered the breach firſt, then the Grenadiers, and were followed by the reſt of the Army, who bravely entered the City of Manila, and took it by ſtorm; At $\frac{1}{4}$ paſt 7, ſaw the Spaniſh flag at the citadel hauled down, and a white flag hoiſted on the ſaid flag-ſtaff; At 8, ſaw Engliſh colours hoiſted on a ſmall battery near the ſea gate; At 12 minutes paſt 11, our army took poſſeſſion of the citadel, hauled down the white flag and hoiſted Engliſh colours on the flag-ſtaff of the citadel. Thus fell the City of Manila, taken by ſtorm.

Winds SW which is right on ſhore, with a great ſea.

Stormy weather.

Our army entered the breach

Manila taken by ſtorm.

The 7th of October 1762. Theſe 24 hours freſh gales and cloudy ſqually weather, with much rain; At ¾ paſt 8 AM. Commodore Tiddeman put off from our ſhip in his barge, in order to go a-ſhore at Manila by entering the river; he was the firſt that attempted to go that way, ſoon after the Commodore put off, it came on to blow very hard in a ſquall of wind and rain. At half paſt 9, in the ſquall, he being in the opening of the river, the great rains had occaſioned ſo ſtrong an outſet or current, with the ſtrong winds blowing right into the river, made the ſea all of a breach, with broken water, in which the barge was overſet, and the Commodore drowned, with five of his boat's crew, the remainder were ſaved by the Seaford's boat, that ſhip lying off the mouth of the River; here he loſt his life needleſly, before he had received the applauſe he might have had from the great ſervice his ſhip * had performed towards the reduction of Manila, and before he received the ſhare he would have had in the conqueſt, but ſuch is the uncertainty of all ſublunary things in this life. By this misfortune, the greateſt part of the merit this ſhip had acquired during the ſiege of Manila, was buried in oblivion. I do not mean by this, that there was any thing ſo noble or diſtinguiſhing in his character, that deſerved to be tranſmitted down to poſterity.

Commodore Tiddeman, drowned.

A Remark on the reduction of Manila.

To ſhew the generoſity of the Admiral and General; after they had every thing at their command, they admitted the inhabitants to a capitulation, by which they ſecured their lives, liberties and properties, with the adminiſtration of domeſtic government, for ſo ſmall a ſum as one million ſterling, and which, to the preſent time, has not been paid, chiefly owing to the imprudent conduct of the Admiral and General, by their ill placed generoſity, and miſtaken ideas of Spaniſh faith and honour. The captors have great reaſon to lament that ſuch a capital acquiſition ſhould be let ſlip through our fingers by imprudence and folly,

* The Elizabeth.

folly, when a different kind of conduct would have ſecured the whole to the captors.

Obſervations reſpecting Manila, the firſt Night we anchored in the Bay.

The 24th of September 1762. The ſquadron anchored in the Bay of Manila. * At half paſt 6 PM. in 14½ fathoms water. The Town of Cavita bore ESE½S. diſtance 5 miles, and the City of Manila NE½E. At 8 PM. ſent our pinnace manned and armed by the Admiral's orders, with the Maſter, to reconnoitre and ſound near the fortifications of Cavita, and report to the Admiral, † which was accordingly done; At 6 AM. a ſignal aboard the Admiral for all Maſters; I happened to be the laſt aboard the Admiral, of courſe the Maſters of the ſquadron had given in their report before I got aboard, which was, that a ſhip could not come near enough to the fortifications of Cavita to reduce them, on account of the ſhallowneſs of the water, ‡ a Council of was then ſitting on board the Admiral, who was much affected at this report. The late Admiral Kempenfelt, was the Admiral's Captain, who came out from the Council of War, to take my report, which was in writing, to give in to the Admiral. I perceived a ſadneſs in his countenance, which led me to ſay, I hope, Sir, you are not unwell, he replied, I am well, but am much concerned at the report the Maſters have made concerning Cavita. May I aſk what this report may be, he anſwered, that ſhips could not come near enough Cavita to reduce it. I ſaid, you have in your hand, Sir, a paper which will prove the contrary of that aſſertion; his countenance brightened up, and he ſeeemd relieved from his anxiety. Come, ſaid he to me, into the ſtern gallery, and I will acquaint the Admiral. I had not been long there, before the Admiral,

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* Vice Admiral Corniſh, in the Norfolk, Commodore Tiddeman, in the Elizabeth.

† The whole Squadron received the ſame orders.

‡ They took this idea from a draft the Admiral had of the place, which made it appear there was ſhoal water at a great diſtance from Cavita, which proved to be falſe, for there is water for a Line of Battle ſhip to go within 200 yards of the walls of Cavita.

Admiral, General, and Captain Kempenfelt came to me, and on reading my report, they were exceedingly rejoiced, and the General was ſo much elated, that he claſped me in his arms, and ſaid many pleaſant things to me for the good news I had brought them. * When this report was made known to the Council of War, they ſeemed determined to attack Cavita immediately, and accordingly the ſignal was made, we weighed anchor, but the Council of War reconſidered the matter, and judged it moſt proper to proceed to Manila and land our troops † immediately, and make our firſt attack upon that city, which was accordingly done, in the courſe of the day, all our ſquadron anchored off Manila, and landed our troops before dark. We landed with the troops 679 ſeamen, with ſea officers to command them, to aſſiſt in carrying on the ſiege of Manila. That part of the ſiege by ſea I have already related.

Some further Remarks on the Reconnoitring Cavita, in the Night, on the 24th of September, 1762.

Cavita, the ſea port to Manila, a good harbour where the Spaniſh ſhips lie.

The ſquadron anchored off Cavita on that day, as I have before mentioned, I ſet out from the Admiral's Ship, where I had been to receive my orders, about 10 PM. in the Elizabeth's Pinnace, manned and armed, and ſteered or rowed according to the bearings I had taken, ſo as to fall in with the ſhore, a little to the weſtward of Cavita, that I might take my foundings along the ſhore. As I approached towards the fortifications of Cavita, I fell in with the ſhore, about half a mile to the weſtward of a point

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* My report was, that three Line of Battle ſhips could go in againſt Cavita, within a cable's length of their batteries, and would reduce them in a ſhort time, by reaſon, when the ſhips were placed, they would be ſo near, and their batteries ſo low, that the ſmall arms from the ſhips would clear their batteries, and that I would carry the Elizabeth againſt it, if ſhe was ordered to lead upon the attack, and would place her againſt their principal battery, which, in my opinion, ſhe would reduce in one hour.

† The number of troops landed at Manila, viz.

Seamen - - - -	679
Marines - - - - -	338
King's and Company's troops - . -	943
Seapoys - - - - - -	600
Irregulars - - -	43
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point of land, which I afterwards called Shingly Point. This is a very low point of land, but ſteep too, which at firſt I took for the back of the fortifications of Cavita, but ſoon found it was not, by not ſeeing any lights, nor hearing any ſtir of people. I rounded this point, within two or three boats lengths of it; the ſea here was very ſmooth, though it blew freſh with a popling ſea in the offing, where our ſhips lay, but was calm, ſtill and ſerene in ſhore; after I had rounded this point in $4\frac{1}{2}$ and 5 fathoms water, I ordered the people to lay upon their oars, and to be very ſtill, and to liſten if we could hear any thing like men's voices, or any other kind of noiſe; here we lay for ſome time, ſoon after we ſaw a light at a diſtance, which we ſteered for with caution, all our oars being muffled with canvas to prevent their making a noiſe. As we approached the light, we ſaw more lights, which convinced me they were in the town of Cavita; the firſt light we ſaw was the greateſt, we continued to ſteer for it, (but with care and great caution, a thing much to be obſerved by a reconnoitering party,) which led us to the weſtward of the fortifications of Cavita, or the land-gate of the Garriſon, and kept ſounding as we went, with a lead and a line on each ſide, and as we approached the light, we found we ſhoaled the water, when we came into 4 fathoms, here I dropt the firſt buoy, * was then well aſſured where I was, by the lights and confuſed noiſe I heard, and could then ſee we were off the weſt point of the fortifications of Cavita; we ſteered ſlowly and quietly along the face of the fortifications, rowed with two oars only, unobſerved by the enemy, and dropt our buoys every half cable's length, in 4 fathoms water; we continued to do ſo until we came to a part of the garriſon where there was a great glaring, but inconſtant light, † which I could not account for; we lay upon our oars

Shingly Point. I called it ſo in my draught of Manila Bay, and is within half a mile of the weſt point of Cavita.

* I carried a number of fire plugs, with ſix fathoms of line to each, with a double headed ſhot to ride the plug, or buoy.

† See the plan of Cavita, I formerly publiſhed N° 6 is a battery of 10 guns, the light we ſaw, was the ſmith's ſhop, N° 12, the white building, the light reflected on was the ſail loft, N° 20. the people were at work in the ſmith's ſhop, when they blowed the bellows, the light reflected the ſail loft, which was white, this is what took up my attention at this time.

oars to ſee what this light could be, as it reflected its light upon an high white building near to it, which appeared exceeding plain to us; here we could hear the enemy talking very plain, and had we been acquainted with the Spaniſh language, we might have known what they were ſaying, for the garriſon was alarmed, their works were manned, and all were at their quarters, and we were within 50 yards of one of their batteries N°. 6, (See the Plan) which was within 200 yards of the point of the garriſon, where you turn round to go into Cavita harbour. Whilſt I was lying in this ſituation, we were alarmed with the noiſe of a boat's rowing, and as ſome thought after us, but I knew by the noiſe of their oars, which were not muffled, as ours were, that it was an Engliſh boat; I ſuffered her to come up with me, but was prepared, had ſhe been an enemy; the boat proved to belong to the Admiral's ſhip. I converſed a little with the Officer, and we differed in opinion about where we were; in an inſtance a light broke forth like the flaſh of a gun, occaſioned by the blowing of the bellows of a ſmith's ſhop, when the Officer in the Admiral's boat haſtily ſaid we are diſcovered, and rowed off in great haſte, and made a terrible noiſe with their oars as they went off. I ſtill lay where I was, but turned my boat's ſtern to the battery, that I might be the leſs mark to hit, had they fired, which I expected they would, but they were not at all alarmed, notwithſtanding the great noiſe the boat made in going off ſo haſtily. I afterwards ſteered gently along the face of their batteries to the point of the garriſon, where it turns round to go into Cavita harbour, N°. 2, St. Catherine's Battery of 31 guns. * Oppoſite the point of this battery, I dropped my laſt buoy, within a cable's length or leſs off it, and left off reconnoitering, being well ſatisfied with what I had done, and well aſſured where I had been, and returned on board at 4 AM.

After

* See the plan of Cavita, N°. 2, a battery of 31 guns, being the point you turn round to go into Cavita Harbour.

After the ſurrender of Manila, the Admiral ordered the ſquadron to anchor and lie off the town of Cavita, which place fell of courſe into our hands at the ſurrender of Manila, as it was included in the capitulation of that city, ſo that we took poſſeſſion of it without trouble. Things being ſettled, the Admiral was pleaſed to make choice of me to ſound and ſurvey the great Bay of Manila and its Coaſt, and ordered a veſſel to be fitted for that ſervice, and to be properly manned and armed, and gave me the command of her, in order to go on the ſervice as before-mentioned, which was not diſagreable to me, but rather what I wiſhed, as I had a ſtrong inclination to buſineſs of this kind, ſo that I went without reluctance, though the ſervice was hard, troubleſome, fatiguing and hazardous, both from ſtorms and from the natives, who never failed to deſtroy the Europeans whenever they could overpower them by ſea or land. I was employed nine weeks on this ſervice, at a certain expence to myſelf, and never received a ſingle farthing for my trouble, and ſeveral times narrowly eſcaped being loſt in ſtormy weather, though perhaps there were thoſe that were well paid for a ſervice they never performed. *

It was whilſt I was on this ſervice, I met with Captain Kempenfelt by accident; I had put my boat a-ſhore at Shingley Point to make my remarks and obſervations, he happened to be rowing that way, on ſeing me, he came a-ſhore, I was always happy to ſee him, we entered into converſation about the place, among other things, he aſked me if I had taken notice of a number of little buoys that were lying along the face of the works of Cavita, at a regular diſtance from each other, and ſome of them very near the works. He took them for fiſhermen's

* Had I not gone on this ſervice, the Engliſh ſquadron would have left the place with as little knowledge of the Bay as they had the day they entered it, but to do myſelf juſtice, I publiſhed a draft of the great Bay of Manila, and its Coaſts, Towns, Fortifications, &c. that poſterity might reap the advantage of the Britiſh ſquadron having been there. The Spaniards themſelves had no proper draught of the Bay, notwithſtanding they had been long ſettlers there.

fiſhermen's buoys, but by appearance they had been there for ſome time.* I told him I knew what they were, and if he would permit me to accompany him, I would ſhew him, we accordingly went, I then told him, Sir, thoſe are buoys that I dropped when I reconnoitred this place in the night the 24th of Sept. the firſt night we anchored in the bay, which furniſhed me with that knowledge of the ſoundings and depth of water off Cavita, that Line of Battle ſhips could come very near the place to attack and take it in a ſhort time; with my account the Admiral, General, yourſelf, and Council of War were well pleaſed. It is true, ſaid he, but I was not more pleaſed then, than I am now, in ſeeing thoſe buoys that you dropped at that time, † and deſired me to row in the ſame line of direction that I had done, when I placed the buoys in the night; I did ſo, and would have taken the buoys away, but he deſired me not, and that they might lie till the Admiral ſaw them, but we hauld up every one of the double headed ſhot, and he looked at them, and dropped them again in the ſame place, until the Admiral ſhould ſee them, or any body elſe who had that curioſity, and he was highly pleaſed with my manner of reconnoitring, and ſaid many obliging things to me on that head. Here the buoys lay until the Elizabeth was ready for ſea, then I took them up and returned the double headed ſhot to the Gunner. Captain Kempenfelt ſaid he wondered where the boats of the ſquadron could have been on the night of the 24th of September, when they were ordered to reconnoitre and ſound about the works of Cavita. I told him, it was a myſtery to me, as it was to him, and ſo it remains to this day. This ſhews how little reliance there is on men, or the reports they make.

The late Admiral Richard Kempenfelt's Character.

Captain Richard Kempenfelt was the Admiral's Captain during the time he was in India, and perhaps the moſt proper man in the naval ſervice for that ſtation; he was a brave, experienced, judicious Officer, who devoted the whole of his time to the ſtudy of the ſervice, was a true diſciplinarian without ſeverity, he was brave, ſedate, and cool in action, and temperate in all his ways; a faſt friend to thoſe he knew, and particularly to men of merit. The writer of theſe pages eſteemed him

* There was green graſs grown upon thoſe buoys.

† The buoys that I put down in reconnoitering Cavita, ſeen by many, and not taken up till after the ſiege of Manila.

him for his many excellencies and great merit, and really believes, from the many years knowledge he had of that great Officer, that he might be juſtly ranked amongſt the firſt claſs of Naval Officers; and to ſum up his great character, he was a plain honeſt man, a good Officer, and a Seaman.

He was made an Admiral in the late war, and diſtinguiſhed himſelf but a little before his death, in a manner that did him honour. He was unfortunately drowned in the Royal George at Spithead, in Auguſt 1782, when that ſhip was overſet, and I believe, left very few of his equals behind him.

I have before mentioned, that the Admiral made choice of me, to ſound and ſurvey the great Bay of Manila, and its Coaſts, and ordered a veſſel to be fitted out for that ſervice, which was accordingly done, and I was employed nine weeks on this ſervice, it was hard, troubleſome, fatiguing and hazardous, both from ſtrorms and from the natives, as before mentioned. The veſſel I had to perform this particular ſervice in, was a Spaniſh Quarter Galley, with three maſts and latteen ſails, being built to ſail faſt, which ſhe did, and was armed with 16 ſwivel guns, and was manned from His Majeſty's ſhip Elizabeth, myſelf with a petty Officer (being one of my Mates) with a Boatſwain's mate, and twenty-two ſeaman, all choice men, every man had a muſket, a pair of piſtols, and a cutlaſs; being manned, prepared and victualled for 14 days, which was the time fixed for our cruiſe, at the expiration of that time we returned to the ſquadron at Cavita, recruited our proviſions, &c. and ſailed again; continued to do ſo during the time I was on this ſervice.

I muſt here beg leave to mention a circumſtance that happened to me when on this ſervic, and on my third cruize, which I hope will ſhew ſomething of ſeamanſhip, and may be of uſe to thoſe who may read the following account of that cruiſe, which will ſhew that the ſervice I was employed upon, was both hazardous, troubleſome, hard and fatigueing. I was at this time employed in ſurveying the entrance of the great Bay of Manilla, which is very extenſive, and in blowing

See my formnr Publcation for a deſcription of the Great Bay of Manila, p.85.

weather, there runs a very great ſea; the Iſland Mirabelle or Corigedore is a pretty high large iſland, and lies in the entrance of Manila Bay, the City of Manila bears from this iſland ENE¼N. diſtance 11 leagues, which ſhews the Bay is of great extent from eaſt to weſt, but is of greater extent from north to ſouth; in this great ſpace there is room for the ſea to riſe very high in ſtormy weather, which will hereafter be ſhewn; the wind had been eaſterly for ſeveral days, which was againſt us, and blew pretty freſh, which was right out of the Bay, and occaſioned a ſtrong current to run with the wind, which made it impoſſible to get to windward, or to proceed towards Manila or Cavita, where our ſquadron lay. At this time we had been out 15 days, we were victualled only for 14 days, ſo that the peoples proviſions were nearly or wholly expened; As nothing could be done in getting our veſſel under way to proceed homeward to our ſhip or ſquadron, I went aſhore in our boat, being a ſix oared boat with my Mate, ſix men and Cox-ſwains, and carried our arms with us, as we always had done, to make ſome further remarks and Obſervations on the Iſland of Corrige-dore; we landed on the outward part of the Iſland, and were employed the whole of the afternoon on this ſervice; a little before ſun ſet we took to our boat, in order to go aboard our veſſel, who lay between this Iſland and the north ſhore at anchor, the wind blowing freſh right out of the Bay, and a ſtrong current running the ſame way with the wind, this obliged us to row cloſe up along ſhore under the iſland, before we attempted to croſs over for our veſſel, in doing this we rowed up along ſhore, until we came oppoſite to a Sandy Bay, the proper landing place on the iſland, where we had ſeveral times landed, and had never found a living creature on the iſland, but was now much ſurpriſed to ſee, a great number of people on the Iſland by the ſea ſhore, who beckoned us to come aſhore, which we were by no means inclined to do, but proceeded on for our veſſel, and were anxious to get on board. We could not reach our veſſel before it grew dark, but ſoon after dark we got ſight of her, and to my great ſurpriſe, found her ſetting her ſails; our people had juſt weighed their anchor, and were getting the veſſel under ſail, to go they know not where, for the wind and current were both ſetting

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ſtrong out of the bay, and they muſt have been drove to ſea, where they muſt have periſhed for want of Proviſions; I called to them as ſoon as they could hear me, to let go the anchor and bring the veſſel up, which they did, and I got on board; by this time the Iſland of Corrigedore was full of lights all over it, which had frightened our people in the veſſel. When I got aboard, I ſeemed diſpleaſed, and aſked them how they could be ſo imprudent as to weigh the anchor, and get the veſſel under ſail without orders, and what induced them ſo to do, and where they meant to go with the veſſel.

They anſwered, they were ſo frightened that they did not know what they meant to do, or where they meant to go, that they conjectured, on ſeeing ſo great a number of lights on the iſland, that the natives had taken me and the boat's crew, and had killed us, and that they would come off and take the veſſel, they therefore got under ſail to get out of the way. This was the idea theſe poor men had at that time.

But fortunate for them, and fortunate for us, and the boat's crew that we got ſight of them as we did, or they muſt have been drove to ſea, and periſhed for want of proviſions, and we in the boat in all probability muſt alſo have periſhed, for as the weather proved afterwards, we ſhould never have reached our ſhip.

I muſt here beg leave to obſerve, that when I got out of the boat on board the veſſel, I do acknowledge that I never experienced a greater trial in my life, and it was with difficulty I could refrain from ſhewing unmanly feelings upon this occaſion; as ſoon as I had got upon the veſſel's deck the people came all to me, and hung about me and expreſſed their joy at my return on board, with ſuch ſtrong proofs of their love and gratitude that had almoſt overcome me, and my own ſervant, who with tears of joy clung ſo to my knees with the ſtrongeſt acknowledgements of gratitude, that it was with ſome difficulty I could reſtrain him. Though this generous behaviour of the people gave me an heartfelt pleaſure, yet it laid me under great reſtraint to conceal my real ſentiments, and not expoſe my weakneſs, by giving

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way to my feelings. Our ſeeing ſuch a number of people upon the Iſland of Corrigedore, in ſome meaſure alarmed us knowing they could not get there without veſſels, though we ſaw none, but ſuppoſed they might be concealed on the other ſide of the iſland, with an intention to attack us in the night; this idea put us on our guard, and we kept a good look out, though it had been our conſtant cuſtom at night, to keep the people at watch and watch, and every man, whether aſleep or awake, to have his arms by him, and to have our guns primed, and matches lighted, and to keep a very good look out, but this night we were particularly upon our guard.

The natives of this country have large boats about 25 or 30 tons burthen, which have 3 lug ſails made of a kind of mats, they ſail exceeding faſt. Theſe are a kind of war veſſels, and carry ſome of them 40, 50 or 60 men armed with ſabres, or a kind of ſhort ſword with a thick back, which makes it very heavy, and they uſe theſe weapons very dexterouſly. A ſtrong man with this ſword will cut a man in two with one ſtroke; their method of fighting is to board the veſſel they mean to attack, and are very deſperate and dextrous at this work: but a few years before we took Manila, theſe people took one of the galeons from the Spaniards in Manila Bay, who had juſt arrived from Acapulco with all her treaſure on board her and carried her. They are perpetually at war with the Spaniards and all other Europeans.

After I had prepared every thing proper for the defence of the veſſel, ſhould we be attacked, I then made inquiry into the ſtate of our proviſions, and found there was but very little indeed; what there was I cauſed to be equally divided amongſt the men, and deſired them to be very ſparing of it, as the wind was contrary, and it was uncertain when we might get to our ſhip; here we lay at anchor unmoleſted, which was more than we expected, we therefore lay upon our arms all night, early in the morning I found the wind and current the ſame way, it had been for three days, which was right againſt us. I was very impatient, and looking about me with my ſpying glaſs, I thought I ſaw the current run to windward in ſhore, or along the north ſhore, I

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ſent my Officer with the boat in ſhore, to ſee if it was as I imagined, the boat returned and the Officer informed me that there was a ſtrong current running to the eaſtward, which was to windward cloſe in ſhore, it was in breadth about 150 or 200 yards, and it run pretty ſtrong to windward, and ſaid if we could work the veſſel in that diſtance, and could keep in the ſtream of the current, we ſhould get to the eaſtward; we immediately weighed anchor, made ſail and got in ſhore into this eaſterly ſtream of the current, and keep working in it, and by noon had got between three and four leagues to windward, having traced the north ſhore along as far as it lay to the eaſtward, which was all in our way, but the land began to trench away quickly to the northward, we could no longer keep the ſhore aboard with advantage, and therefore was obliged to croſs the Bay, and ſtand towards the ſouth ſide of it, the veſſel made a pretty good ſlant towards Cavita. At 2 PM. it began to ſnuffle and blow, and the ſea began to riſe, was obliged to take in the ſecond reef in our ſails; At 3, was obliged to take all the reefs in our ſails, the gale increaſing and the ſea being very high; At 4, we were drawing near the ſouth ſhore of the Bay, it began to blow very hard and the ſea being very high, we found the veſſel made very bad weather, and that ſhe could not bear her ſails, and ſhipped a great deal of water, inſomuch that it was with difficulty that we could keep her free, and as we found ſhe could not bear her ſail, we were determined to try if ſhe would ride at anchor, and being as near the ſhore as I judged neceſſary to go, and the wind blowing ſlant about 4 points on the ſhore, which was covered with multitudes of the natives, expecting us to be drove aſhore; had that been the caſe, we expected no quarter from them, however, we were determined to do our beſt to prevent ſuch an accident from happening, we took in our ſails and brought our veſſel to an anchor. At half paſt 4 PM. and gave her a large ſcope of cable, but to our great concern found ſhe would not ride at anchor, ſhe made worſe weather of it at anchor than ſhe did under ſails, ſhe plunged herſelf ſo deep into the ſea, that ſhe took in whole green ſeas fore and aft her, ſo that ſhe

Diſtreſs in miniature.

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muſt ſoon have foundered at her anchor; at this the people began to look very ſerious, which I ſoon perceived, and ſaid to them, Gentlemen, I ſee you look very ſerious, I own you have ſome cauſe to be ſo, but let us hope for the beſt, I have another method to try with the veſſel, which I hope will anſwer better. The people aſked what that might be, I ſaid, they ſaw as well as me that the veſſel would founder if ſhe lay at anchor, I therefore propoſed to weigh the anchor immediately, and to caſt the veſſel with her head off ſhore, and to lay her too under a cloſe reeft and balanced mainſail; they ſaid there was but a diſmal proſpect, look which way they would, death only preſented itſelf. I then ſaid, if we found the veſſel would not lye too as I propoſed, we had one thing more to try, which was, to bear away and ſcud under the bare poles before the wind, as our laſt ſhift; the people ſeemed ſatisfied with what I had ſaid, and we weighed our anchor about 5 PM. and ſtood off ſhore, under a cloſe reeft and ballanced mainſail, being a latteen ſail, ballanced it ſo that the ſail was made very ſmall, the veſſel had good headway, ſo that we ſteered her, which made her more manageable in the ſea; the wind by this time was increaſed to a violent ſtorm, the veſſel made ſo much water that we could but juſt keep her free with pumping and baleing, but I was in hopes we ſhould weather out the ſtorm.

The people being wet and much fatigued, began to complain they had neither victuals nor drink to ſupport them, I ſaid, I knew their wants, and would ſupply them as far as in my power, I ordered my Officer to take two of the men with him and to go to my ſervant, and ſee what remains of proviſions I had of my private ſtock; they did ſo, and found about 2 pound of buiſcuit, half a piece of ſalt beef ready dreſſed, and about 2 quarts of arrack, which I ordered to be mixed into grog, and ordered the biſcuit, beef, and grog to be equally diſtributed amongſt all the people in the veſſel, including myſelf and the petty Officers, dividing the ſame in equal ſhares, by calling out *Who ſhall have this*, with which the people were well ſatisfied; when this was done, I then ſaid to the people, you ſee Gentlemen, I have divided all I had amongſt

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you, we are now all upon a footing with reſpect to meat and drink, therefore any complaint on that head in future will be needleſs, we are all upon the ſame footing.

The veſſel made tolerable weather of it, but we could but juſt keep her free, ſhe made ſo much water; about 11 PM. came on a moſt tremendous guſt or gale of wind, with a deluge of rain, which made ſuch a ſpoon drift in the ſea, that muſt have foundered the veſſel in a few minuets, was obliged to bear away right before the wind, lowered down the mainſail and ſcudded under bare poles, thus was we obliged to run from homewards to ſeaward; without a morſel of proviſion, but a man will do any thing to ſave life, as long as he can. The people began to be much diſcouraged, I ſaid all I could to keep up their ſpirits, and ſaid, from the violence of the ſtorm, there was a probability that it could not be of long continuance; we ſcudded this way for half an hour, when the ſtorm began to abate; about midnight it lulled, and ſoon after turned to a calm; about 1 AM. there ſprung up a moderate breeze at ſouth, which was off ſhore, and a leading wind for us to go to Cavita, where our ſquadron lay, we joined our ſhip by noon the ſame day, who had given us up for loſt, but we were thankful to God it happened otherwiſe. The proceedings I have juſt mentioned, and our happy deliverance from this danger, leads me to repeat the following lines, which I think are very applicable to the occaſion.

When preſt by danger, or beſet with foes,
The Gods their timely ſuccour interpoſe,
And when our ſpirits ſink, o'erwhelmed with grief,
By ſome unforeſeen expedient, brings relief.

This ſhews the ſervice I was ſent upon in ſounding and ſerveying the Bay of Manila, was not quite a party of pleaſure, but was attended with unpleaſant circumſtances and hardſhips, with fatigue both of body and mind, which I underwent for nine weeks on this ſervice, whilſt others were enjoying their eaſe and pleaſure, and ſome enriching themſelves from the ſpoil that was found in the place, and ſome were very

ſucceſsful in this ſort of buſineſs, whilſt I got only my labour for my pains. A circumſtance not very pleaſant for a man to reflect on.

As it was and is my whole and ſole intention in all I either write or ſay, that it ſhould be of uſe to the preſent age and poſterity, when I am no more, and as a concealment of any truths or facts that have happened in the courſe of my ſervice, that may be of uſe to mankind in the ſeafaring way, I ſhould look upon it as a fault in me to conceal it, though at the ſame time could wiſh, for the credit of the ſeafaring part of the nation, that it might be buried in oblivion, as it carries with it a very unpleaſant reflection, but for the good of poſterity I think it ſhould be made known, which is all I intend, as it happened at a time when our enemy the French were ſuperior in point of force to the Engliſh, both by ſea and land in India; and had any miſcarriage happened to the Britiſh Squadron then in India, it might have occaſioned the loſs of all our poſſeſſions in that country, and at this time the Britiſh Squadron was Commanded by an Admiral of renowned abilities for his being a brave, judicious, and prudent Officer, whoſe honeſt intentions and endeavours was ever to be right, and act right, which makes it hurtful to mention a miſcarriage to happen under the command of ſo great and good an Officer, but I hope the good that may reſult from the relation of the circumſtance, will apologiſe for my mentioning it. I am ſure ſome rational reflections may be drawn from the ſequel of the relation, that may be of uſe to ſeamen in general.

Remarks Tranſactions and Occurrences that happened many Years ago, in a remote Part of the World, where the Author was.

I muſt here beg leave to relate the hiſtory of this matter. The Engliſh ſquadron had been to Trincomalay, on the Iſland of Zeloan, to wood and water, we were expecting the French ſquadron to arrive, whom the Admiral was determined to bring to action, whenever he ſhould meet them, though they were ſuperior to us with reſpect to force; we ſailed from Trincomalay, and ſteered for the Coaſt of Coromandel with all our ſquadron, the wind was weſterly, which is off ſhore, ſo the reader will underſtand, we were ſteering along a weather ſhore,

ſhore, with moderate gales and fair weather, the ſquadron ſailed in the order the Admiral had given, by which the ſhip I was in was upon the Admiral's ſtarboard quarter, which at this time was the lee quarter, ſo that he was between us and the land, as the evening came on about ſun-ſet, in ſetting the land as I uſually did myſelf, in order to aſcertain the ſhip's exact ſituation by the bearings of it, before night came on, from which a direct courſe ſhould be ſteered to keep clear of the land, or any danger that might lye in the way, and when in ſoundings, to keep the lead conſtantly going, particularly in the night or hazy weather, in order to be governed as much by the depth of water as by the courſe ſteered, the one ſhould correct the other. *

After I had made my obſervations, I fell into a converſation with my Captain, amongſt other things, I ſaid that I thought the Admiral kept too much to the windward, or in other words, kept too near the ſhore, and if he kept that courſe he was then ſteering, he would run the ſquadron upon the ſhoals off Point Pedro, for he ſteered full a point too high, or a point too much to windward, the wind being off ſhore, as before-mentioned, to which he anſwered, " Do you think, Sir, the Admiral does not know what he is about, or do you think he will run the ſquadron aſhore, has he not people about him to conſult with? I dare ſay we are going very right," rather in an unpleaſant tone. I anſwered, by ſaying, I was happy we were to the leeward of the Admiral, and one of the leewardmoſt ſhips in the ſquadron, and that they muſt all run on ſhore before us, that was my conſolation.

We continued to ſteer the courſe we were then ſteering, until midnight, when we and ſeveral others of the ſquadron run aground, exactly as the bell rang 12 o'clock, which alarmed us very much; I was getting up, and was ſoon upon deck, when I got there, I ſaw ſeven ſail aſhore near us, and ſome further off, but ſaw nothing of the Admiral. I aſked the Officer of the watch how long he had loſt ſight of the Admiral? he ſaid a little before 12 o'clock, when he loſt

* See my directions, page 43 for proper directions for ſailing along this part of the Iſland Zeloan.

ſight of the Admiral's lights, all at once they diſappeared, * I aſked the Officer of the watch what he did when he loſt ſight of the Admiral's lights? he ſaid, he thought the Admiral had hauled more in for the ſhore, and he hauled in ſhore alſo, but that he had not run ſo a few minutes, than the ſhip run a-ground. †

I looked at the compaſs, and found the ſhip's head was nearly right for the ſhore; I went upon the poop and looked for the Admiral, and ſaw his lights nearly right a-ſtern of us, he came to an anchor and made the ſignal for anchoring, we hoiſted out our boats, and ſounded round the ſhip, and found that two hawſers length right a-ſtern of the ſhip, we had ſeven fathoms water; found the ground every where very ſoft and muddy, the ſea was very ſmooth, ſo that the ſhip did not ſtrike hard upon the ground, carrried out our ſtream anchor and cable, and two hawſers on an end right a-ſtern, took them in at the gun room port, and hove them tight, and began to lighten the ſhip by ſtarting the water and heaving the wood overboard, which was very heavy, and we had a great quantity of it on board. At 5 AM. having ſtarted a great deal of our water, and hove a great quantity of our wood overboard, and ſuppoſed the ſhip to be conſiderably lightened, we hove upon our ſtern hawſer, which came in at the gun room port, and the wind being a moderate breeze, right off the ſhore, ſet all our ſails a-back, we ſoon obſerved the ſhip to move, we hove her off, hove the anchor to the gun room port, made ſail and ran out to the Admiral and anchored, as did the reſt of the ſquadron that had been on ſhore.

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* The Admiral's ſhip ſeeing the ſhips in her weather quarter a-ground, and perhaps had touched the ground themſelves, or had hove the lead, and finding ſhallow water, they bore away right before the wind, and run directly off ſhore, without making the ſignal for altering the courſe. This was an unpardonable omiſſion in the Officer of the watch of the Admiral's ſhip, which accounts for our Officer of the watch, and the ſhips on the Admiral's lee quarter, looſing ſight of his lights all at once, and muſt have been the caſe, when he bore away before the wind.

† The Officer of the watch was a very young man, aud of courſe a young Officer, little can be ſaid either of his experience or his judgement, which was as wrong as wrong could be, he hauled the ſhip right in for ſhore, when he ſhould have hauled her off from it.

This affair, I know not what to call it, whither an error of judgment, a miſtake, or a great blunder, which you pleaſe, but this I know, it leaves a ſevere reflection on us, as Engliſh ſeamen and navigators, it cauſed much altercation in the ſquadron, but the more it was ſpoke of, the worſe it appeared, the Author's converſation with his Captain, furniſhed ſome with their argument, however it all vaniſhed away like ſmoke. The Maſter * of the Admiral's ſhip was a young Officer, and perhaps not ſo attentive to his duty as he ſhould have been, or was difficient in profeſſional knowledge, he, I think, was moſt to blame, but he did not ſurvive that reproach long, for he was killed in our action with the French fleet ſoon after.

I muſt here beg leave to obſerve, it was very fortunate that this accident happened in fine weather and the wind off the ſhore, had it happened in bad, or ſtormy weather, with the wind on the ſhore, which might have been the caſe, the whole Squadron might have been loſt, which muſt have overthrown the whole ſyſtem of our affairs in India, and would have proved very detrimental to the Nation, but thank God it happened otherwiſe.

As I have had occaſion to mention our action with the French Fleet, I muſt beg leave to mention a circumſtance or two that will ſhew that ſeamanſhip is as neceſſary in this buſineſs, as in any other action of a man's life, and here the ſeaman may have an opportunity to ſhew himſelf brave and judicious, or the reverſe, for men will judge of him according to his actions, for which he may get applauſe or cenſure.

This action has been mentioned in hiſtory, but as hiſtorians only mention things in the groſs, in a general way, I ſhall beg leave to mention

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* The Maſter of a Man of War ſhould be (and particularly in a Flag ſhip) a ſedate man, a good and experienced Seaman, an expert and judicious Navigator, and a good Pilot, a man who ſhould have a proper knowledge of the ſervice he is employed in, he ſhould be a man of ſenſibility enough to know what ſtreſs of care lies on him in his official ſtation, in the performance of his duty, he ſhould be a brave man, and of ſteady reſolution, and not liable to be carried away by the opinion or perſuaſion of other men. Such an Officer is an acquiſition to the ſervice, and if he is a proper Officer in his ſtation, he is as valuable an Officer as any in the ſhip.

very very true

mention a few particular circumſtances, by way of ſeamanſhip, which I hope may be of uſe. We were upon a wind on the larboard tack, had the weather gage of the enemy, who had formed their ſquadron in a Line of Battle, they were a-head of us, on the larboard tack, and were lying too with their main topſails to the maſts, waiting for us; they conſiſted of eleven ſail of the Line, viz. three of 74, five of 64, and three of 60 gun ſhips; The Engliſh Squadron conſiſted of nine ſail in our Line, viz. two of 66, two of 64, three of 60, and two of 50 guns. The French Squadron were greatly ſuperior in number of ſhips, men, and guns, we bore down upon them in the Line of Battle a-head, I was in the leading or van ſhip, the French gave us a very fair opportunity of forming our Line of Battle, had we formed it as expeditiouſly as we might have done; we were running along the French Line under an eaſy ſail, the enemy were ſo honourable, that they did not offer to fire at us. The two near ſhips in our line ſhortened ſail too ſoon, and were dropped a-ſtern of the ſhips next to them a conſiderable diſtance, when they ſhould have kept as cloſe a line as poſſible, for the reaſons that I ſhall give. * Whilſt theſe ſhips in the rear of our ſquadron were dropped ſo far a-ſtern, it was plain to every diſcerning eye, that they would not get into the action, as it was at a time of the day, we expected leſs wind, and a change of it. At this time the Admiral made the ſignal for the van to make more ſail, and to take our ſtation in the Line of Battle, oppoſite the enemy, we being the van ſhip, ſet all our ſails, as did the two ſhips a-ſtern of us, we ran along the French Line within a point blank ſhot of them; the enemy did not fire a ſhot, and brought too abreaſt of their van ſhip, at a proper diſtance, as did the two ſhips a-ſtern of us, oppoſite to the 2d and 3d ſhip of their van, here we lay for ſome time, the reſt our ſquadron coming up under an eaſy ſail;

Engaged the French Fleet

* A cloſe Line of Battle ſhould be recommended at all times, but particularly when the enemy is ſuperior in point of force, (the reaſons why) that the enemy may not or cannot engage you with a greater number of ſhips than your line conſiſts of.

ſail; * about this time the wind hauled more to the weſtward, which threw our two rear ſhips that were ſo far a-ſtern at all the diſtance they were a-ſtern, they were to leeward, which prevented their getting into the Line of Battle; at this time the French Admiral made the ſignal to begin the engagement, which was immediately done. †

At this time we had but three Engliſh ſhips oppoſite to three French ſhips in the van, a 64, 50 and 60. The French had five ſail of ſhip's a-head of their Admiral, who was in the center of their Line, the ſecond ſhip in their van was a 74 gun ſhip, which fell to the 50 gun's ſhip lot to engage, which ſoon diſabled her ſo much that ſhe could only fight her lower deck guns, and muſt have been ſoon demoliſhed had we not backed a-ſtern, in order to take off the fire of the 74 gun ſhip from her, which we did, and ſoon after the 60 gun ſhip was as much ſhattered as the 50 gun ſhip, and could only fight her lower deck guns.

At the time the action began, our ſecond in command was only abreaſt of the French Admiral, which he engaged and could get no farther, and our Admiral was obliged to engage the ſhip a-ſtern of the French Admiral, ſo that there was but four ſhips of ours (one of them a 50 gun ſhip) to engage ſix ſhips of the enemies, from the center to the rear, as our two rear-ſhips, which had dropped a-ſtern and to leeward, never got into the action, ſo that the French had their whole ſquadron, eleven ſhips, well diſpoſed of in their Line of Battle, and the Engliſh brought but ſeven ſhips into action. Our line very irregular and disjoined, which greatly expoſed us to the enemy, and was the principal cauſe of our ſhips ſuffering ſo much

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* This was an aſtoniſhing manœvre at this juncture of time, as it broke our line and ſeparated it. This was an act ſo inconſiſtent with true diſcipline and good policy, that I cannot account for it, but muſt ſay, the French Admiral embraced the occaſion, and put it out of our power to join our Line of Battle again.

† Here the French Admiral outmanœvred us, by beginning the Action under the diſadvantage our ſquadron lay under at this time: we had broke our line, disjoined it and ſeparated it from the center, and our two rear ſhips were fallen to leeward, and could not get into the action. The enemy thought this a favourable opportunity to avail themſelves of, as there ſeemed to them a ſomething in our actions, which induced them to act as they did

much as they did; this action laſted three hours, it was very ſevere, we loſt a great number of men, and our ſhips were very much ſhattered; at laſt the French made ſail and went off before the wind, and looked as if they had not been in action, whilſt the diſtreſs of our ſquadron was but too viſible to be ſeen, partly owing to our two ſhips in the rear not getting into the action, they were two 60 gun ſhips, much might be ſaid for their miſconduct, but they got clear with impunity.

A Remark.

Before the action began, I ſaid, that it would be but right to give the enemy as little advantage over us as poſſible, as they were greatly ſuperior to us in point of force. I therefore adviſed that our ſquadron ſhould be brought up to action in a cloſe line, and as the enemy outnumbered us by two ſhips, I propoſed that we in the van ſhip ſhould engage the ſecond ſhip in the enemies van, and each of our ſhips to engage the enemies ſhip oppoſite to them from the van to the rear; by this way of acting in a cloſe line, their van and rear ſhip would have been kept out out of the action, and would have been no great advantage to the enemy, nor any material diſadvantage to us. I am fully perſwaded, if we had acted in this manner, we ſhould have ſucceded much better than we did, but my propoſels were not approved of, and things happened as I have related.

As I have had occaſion to mention the words Line of Battle, I ſhall here beg leave to ſay ſomething about it; when I was at ſea, It is a thing I thought much about, and ſtudied, it being a thing of the greateſt conſequence to the good of the ſervice, and what every good Officer and Seaman ſhould know, and underſtand all the manœvres with reſpect to forming a Line of Battle, eſpecially when in ſight of the enemy, that no time may be loſt in forming your fleet or ſquadron in proper order of Battle for engaging the enemy to advantage, yet I am ſorry to ſay, it is a thing not well known or rightly underſtood by many, as I have ſeen and experienced, from which I found that there are many people who have not a right idea of the ſenſe and meaning of the word, and therefore cannot have a proper idea of the meaning and intention of the action, in forming the Line of Battle a-head, a Line of Battle a-ſtern, a Line of Battle a-breaſt, or a Line of Battle to bear upon any point

point of the compaſs, &c. &c. But as this is a ſubject foreign from what I have been writing upon, I muſt beg leave to offer ſome few curſory remarks in this place, though much might be ſaid upon it, advantageous to many.

Reflections on a Long Boat's being in or out of a Ship when ſhe is expected to come to Action with the Enemy.

As I have had occaſion to mention ſomething more concerning a Line of Battle, and ſhips coming to action with the enemy, &c. I ſhall here beg leave to ſay ſomething more on that head, which is, the idea that ſeamen have in general in clearing or preparing a ſhip for coming to action with the enemy is a very miſtaken one, with reſpect to the long-boat, whether ſhe ſhould be in or out of the ſhip upon ſuch occaſions, and have always found it a received opinion amongſt ſeamen in general, from the Admiral to the Cook's Boy, that it was diſadvantageous to the ſhip to come to action with the long-boat in; ſhe is therefore hoiſted out, put into the water, and veered a-ſtern, by way of clearing a ſhip for coming to action, &c. and I have known it happen when a Squadron of Men of War have been in ſight of the enemy, and in chaſe of them, and they expected ſoon to come to an engagement, and the long boats have been in upon deck, and they thought they had not time to hoiſt them out, in that caſe I have known them order the long boats to be be ſawed in pieces and hove overboard, by way of clearing the ſhip for action, which in my opinion was a raſh and inconſiderate act, and after all did not come to action with the enemy, ſo much for *Old Dame Cuſtom*, and for men being carried away by falſe or miſtaken ideas, becauſe it was early planted in their minds, without making uſe of their own reaſon and experience, to convince them of their error and folly in this matter, which in my opinion is contrary to reaſon and common ſenſe, and when we conſider it, in the various points of view in which we might look at it through reaſon's glaſs, I really think we ſhould be aſhamed of ourſelves in committing ſuch an action.

ſail; * about this time the wind hauled more to the weſtward, which threw our two rear ſhips that were ſo far a-ſtern at all the diſtance they were a-ſtern, they were to leeward, which prevented their getting into the Line of Battle; at this time the French Admiral made the ſignal to begin the engagement, which was immediately done. †

At this time we had but three Engliſh ſhips oppoſite to three French ſhips in the van, a 64, 50 and 60. The French had five ſail of ſhip's a-head of their Admiral, who was in the center of their Line, the ſecond ſhip in their van was a 74 gun ſhip, which fell to the 50 gun's ſhip lot to engage, which ſoon diſabled her ſo much that ſhe could only fight her lower deck guns, and muſt have been ſoon demoliſhed had we not backed a-ſtern, in order to take off the fire of the 74 gun ſhip from her, which we did, and ſoon after the 60 gun ſhip was as much ſhattered as the 50 gun ſhip, and could only fight her lower deck guns.

At the time the action began, our ſecond in command was only abreaſt of the French Admiral, which he engaged and could get no farther, and our Admiral was obliged to engage the ſhip a-ſtern of the French Admiral, ſo that there was but four ſhips of ours (one of them a 50 gun ſhip) to engage ſix ſhips of the enemies, from the center to the rear, as our two rear-ſhips, which had dropped a-ſtern and to leeward, never got into the action, ſo that the French had their whole ſquadron, eleven ſhips, well diſpoſed of in their Line of Battle, and the Engliſh brought but ſeven ſhips into action. Our line very irregular and disjoined, which greatly expoſed us to the enemy, and was the principal cauſe of our ſhips ſuffering ſo much

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† Here the French Admiral outmanœvred us, by beginning the Action under the diſadvantage our ſquadron lay under at this time: we had broke our line, disjoined it and ſeparated it from the center, and our two rear ſhips were fallen to leeward, and could not get into the action. The enemy thought this a favourable opportunity to avail themſelves of, as there ſeemed to them a ſomething in our actions, which induced them to act as they did

much as they did; this action lasted three hours, it was very severe, we lost a great number of men, and our ships were very much shattered; at last the French made sail and went off before the wind, and looked as if they had not been in action, whilst the distress of our squadron was but too visible to be seen, partly owing to our two ships in the rear not getting into the action, they were two 60 gun ships, much might be said for their misconduct, but they got clear with impunity.

A Remark.

Before the action began, I said, that it would be but right to give the enemy as little advantage over us as possible, as they were greatly superior to us in point of force. I therefore advised that our squadron should be brought up to action in a close line, and as the enemy outnumbered us by two ships, I proposed that we in the van ship should engage the second ship in the enemies van, and each of our ships to engage the enemies ship opposite to them from the van to the rear; by this way of acting in a close line, their van and rear ship would have been kept out out of the action, and would have been no great advantage to the enemy, nor any material disadvantage to us. I am fully perswaded, if we had acted in this manner, we should have succeded much better than we did, but my proposels were not approved of, and things happened as I have related.

As I have had occasion to mention the words Line of Battle, I shall here beg leave to say something about it; when I was at sea, It is a thing I thought much about, and studied, it being a thing of the greatest consequence to the good of the service, and what every good Officer and Seaman should know, and understand all the manœvres with respect to forming a Line of Battle, especially when in sight of the enemy, that no time may be lost in forming your fleet or squadron in proper order of Battle for engaging the enemy to advantage, yet I am sorry to say, it is a thing not well known or rightly understood by many, as I have seen and experienced, from which I found that there are many people who have not a right idea of the sense and meaning of the word, and therefore cannot have a proper idea of the meaning and intention of the action, in forming the Line of Battle a-head, a Line of Battle a-stern, a Line of Battle a-breast, or a Line of Battle to bear upon any point

point of the compaſs, &c. &c. But as this is a ſubject foreign from what I have been writing upon, I muſt beg leave to offer ſome few curſory remarks in this place, though much might be ſaid upon it, advantageous to many.

Reflections on a Long Boat's being in or out of a Ship when ſhe is expected to come to Action with the Enemy.

As I have had occaſion to mention ſomething more concerning a Line of Battle, and ſhips coming to action with the enemy, &c. I ſhall here beg leave to ſay ſomething more on that head, which is, the idea that ſeamen have in general in clearing or preparing a ſhip for coming to action with the enemy is a very miſtaken one, with reſpect to the long-boat, whether ſhe ſhould be in or out of the ſhip upon ſuch occaſions, and have always found it a received opinion amongſt ſeamen in general, from the Admiral to the Cook's Boy, that it was diſadvantageous to the ſhip to come to action with the long-boat in; ſhe is therefore hoiſted out, put into the water, and veered a-ſtern, by way of clearing a ſhip for coming to action, &c. and I have known it happen when a Squadron of Men of War have been in ſight of the enemy, and in chaſe of them, and they expected ſoon to come to an engagement, and the long boats have been in upon deck, and they thought they had not time to hoiſt them out, in that caſe I have known them order the long boats to be be ſawed in pieces and hove overboard, by way of clearing the ſhip for action, which in my opinion was a raſh and inconſiderate act, and after all did not come to action with the enemy, ſo much for *Old Dame Cuſtom*, and for men being carried away by falſe or miſtaken ideas, becauſe it was early planted in their minds, without making uſe of their own reaſon and experience, to convince them of their error and folly in this matter, which in my opinion is contrary to reaſon and common ſenſe, and when we conſider it, in the various points of view in which we might look at it through reaſon's glaſs, I really think we ſhould be aſhamed of ourſelves in committing ſuch an action.

In the action I have before mentioned, which was a very ſevere one, we got our longboat out and veered her a-ſtern according to cuſtom, but quite contrary to my opinion and idea of things, but becauſe others did it, ſo muſt we; in the courſe of the action the ſpare topmaſts, yards, fiſhes, &c. which compoſed the booms, and on which the barge was ſtowed, and the ſkids that the other boats were ſtowed upon, were laſhed to the booms, which in courſe of the action were much wounded and cut to pieces with ſhot, inſomuch that we were in fear that they would fall down upon the main deck, boats and all, which would have been a terrible thing to have happened in time of action, as they would have fallen to leeward, being the ſide we were engaged, which would have prevented our fighting every one of the guns on the main deck, which might have been productive of much evil, and was prevented by our ſhoring the booms up in ſeveral places, to prevent their falling down upon deck; at this juncture I ſincerely wiſhed the longboat had been in upon deck, in her place, if ſhe had, we ſhould not have been afraid of the booms falling upon deck, for ſhe would have kept them from falling, which would have anſwered one good end of her being in upon deck.

And I cannot ſee any reaſonable objection that can be made againſt the longboats being in upon deck in time of action. I think much more might be ſaid for it than againſt it, but, ſays a fine fellow, Mr. *Wiſe Acre*, who is thought to have more gaity than courage, and more finery than ſenſe, if a ſhot ſhould ſtrike the longboat when ſhe is in upon deck, the ſpinters from her would kill or wound all the men that are quartered at the guns in the waiſt, therefore it would be dangerous to have the longboat in, in time of action, to which I pray leave to anſwer, I will ſuppoſe your ſhip in action with the enemy, and they are on your ſtarboard ſide, and you are fighting your ſtarboard guns as we were, will not all your people be on the ſtarboard ſide of the ſhip at their quarters, a ſhot muſt come through the ſhip's ſide before it can ſtrike the longboat, which is on the midſhips of the main deck; when a ſhot ſtrikes her, the ſplinters will go over the larboard ſide of the deck,

deck, where there is no men, therefore the men at the guns cannot be hurt by the ſplinters from the longboat, and as there is plenty of room to fight the guns with the longboat in her place, and as I have given good reaſons that it is better to have the longboat in than out of the ſhip, I hope that ſeamen will ſee the propriety of what I have ſaid.

I know there are a ſort of light-minded men who will cavil at every thing that is ſaid or done, who have ſtarted a ſuppoſition, that when the long boat is in in time of action, and any of the guns on the main deck are diſmounted, and you want to bring a gun from the other ſide to ſupply the place of the diſmounted gun, the long boat is in the way of getting the gun over; to which I anſwer, it is not ſo, for there is plenty of room to bring the guns from the other ſide abaft the mainmaſt, and before the long boat's bow, with great eaſe and conveniency, therefore that part of the argument is done away, and the reaſon I have before given, will I hope prove the propriety of having the long boat in, in the time of an engagement with an enemy.

Again, I muſt here beg leave to mention a circumſtance that is ſtill recent in my memory, though it is an affair that happened many years ago, in a former War which I ſerved in. I was in a large fleet conſiſting of 16 ſail of the Line, with a number of Frigates and a large Convoy of Tranſports, with a great number of Land Forces in them, with other Merchant Ships. We were bound abroad on foreign ſervice; the Admiral had been informed that a ſuperior fleet of the enemy was intended to intercept our fleet in the Chops of the Channel, or before we had got far from home, and therefore the Admiral was adviſed to be upon his guard, and to expect ſuch an event to happen. In conſequence of this information, when we ſailed out of port, the Admiral gave it out in orders, that the Line of Battle ſhips ſhould hold themſelves in readineſs for coming to action on the ſhorteſt notice, and that the long boats ſhould not be got in, but be hoiſted up along ſide, that the ſhips might be ready for coming to action with the enemy whenever that event ſhould happen; of courſe the whole fleet did as the Admiral had directed. I was then in a very capital ſhip, and was much ſurpriſed at the Admiral's orders, as he was an old Officer and an experienced Seaman, and ſhould have ſuppoſed

that he had weighed the orders he had given in his own mind, and the impropriety of them, which I ſhall ſay more of hereafter.

After we ſailed out of port, we met with very rough weather for ſeveral days, and for 10 or 12 days after the long boats hung up alongſide, during which time I expected we ſhould have loſt our long boat or our maſts, for when the long boat was on the lee ſide, ſhe was a great additional ſtrain on the lower maſts, and an additional ſtrain to the ſhip's ſide, ſo that it was ſeveral times in contemplation whether it would not be beſt to cut the long boat away, but I argued, ours was as capacious a ſhip as any in the fleet, it therefore was as capable of keeping our long boat as any ſhip in the fleet, and at length, not meeting with the enemies fleet, the Admiral ordered the long boats to be hoiſted in upon deck.

In our paſſage we fell in with the enemies fleet, as far to the weſtward as the Weſtern Iſlands; we ſaw them in the morning to the weſtward of us, we had a ſtrong eaſterly wind, the Admiral made the ſignal for a general chace, we chaced them for the greateſt part of the day, but we found the enemy had the heels of us, therefore declined the purſuit, though we knew they were bound to the place we were ordered to attack. So much for the enemies ſhips ſailing much better than we did.

I will ſuppoſe a Squadron of Men of War in the ſame Predicament that we were, as I have juſt before mentioned, and bound abroad, and their longboats are hoiſted up along ſide, under the falſe idea of keeping the ſhip clear for action, which in my opinion is highly ridiculous; I will ſuppoſe the enemies fleet, to be in ſight early in the morning, and there is a proſpect of the two fleets coming to action, the longboat is hoiſted up along-ſide, as I have before mentioned, it will then be judged proper to lower her down into the water, and veer her a-ſtern of the ſhip, and the ſhip to tow her, by way of preparing the ſhip for action, and the guns in the waiſt, which were in the way of the longboat, were obliged to be houſed fore and aft, on account of the longboat's being hoiſted up along ſide, muſt now be got in their proper places, and all things are ready for an engagement with the enemy.

I will ſuppoſe the enemy endeavours to decline the fight, they make ſail and ſeem not inclined to come to action, let us ſee what will be

be the conſequence? the Admiral makes the ſignal for a general chace, the longboat is towing a-ſtern, which is a great impediment to the ſhip's ſailing, and of courſe it will be ſaid it will prevent the ſhip from coming up with the enemy, let us ſee what will be the concluſion, it will be to cut the longboat adrift, that the ſhip may come up with the enemy; away goes the longboat, ſhe is cut adrift and loſt.

I will again ſuppoſe the enemy is in ſight in the morning, as before mentioned, and the two fleets come to action, or the engagement is declined from political or other motives, as the Commander in Chief may may think proper, and the ſignal is made to make ſail from the enemy, and the longboat is towing a-ſtern, as before mentioned, which is a great impediment to the ſhip's ſailing, and the enemy are purſuing, let us ſee what will be the concluſion, as at ſuch times a panic more or leſs prevails, it will be to cut the longboat adrift that the ſhip may eſcape from the enemy; away goes the longboat, ſhe is cut adrift and totally loſt.

At ſuch times as theſe, when the longboat is got out of the ſhip and put into the water, ſhe is an impediment to the ſhip's ſailing, whether ſhe is purſuing or running from the enemy, and if the ſquadron is bound abroad on foreign ſervice, it ſhould be conſidered, that the loſs of the longboat will be very materially felt, and will very much retard the equipment of the ſhips when they arrive at their place of deſtination abroad, in their wooding, watering, getting their ſtores aboard, in landing or re-embarking men, &c. &c. This ſhould induce every man of common ſenſe and reaſon to take great care of the longboat; and from what has been ſaid, I think it will convince every thinking man, that the longboat, when hoiſted in upon deck and properly ſtowed, is not in the way, nor is the leaſt impediment of the ſhip's coming to action with the enemy, much leſs, when ſhe is in than out. So much for *Dame Cuſtom*, and men's not making proper uſe of their underſtanding.

I muſt here beg leave to mention one circumſtance more, of longboats being in or out of ſhips, when coming to action with the enemy, which I hope will convince the reader, that what I have ſaid is a circumſtance

that

that amounts to a real fact, and needs no further explanation. The thing I am about to relate is as follows, viz.

It is not quite a century ago, when this nation, under the apprehenſions of an approaching war with their enemies, fitted out a very capital fleet, and ſent twenty odd ſail of the Line to ſea, with a number of Frigates, under the command of four Admirals, well equipped and manned, and were ſuppoſed to be as good a Fleet of Men of War, as were ever fitted out in this or any other country, according to their numbers. They ſailed (the nation big with hope of their anſwering the end propoſed) that ſhould they meet the enemy's fleet, they would ſtrike a deciſive blow, and I think their ideas were not ill founded; but alas! how they were diſappointed in their expectation, will hereafter be ſhewn.

This fleet got to ſea, and were not long got into their ſtation, which was not quite 1000 leagues to the weſtward of the Chops of the Channel, they fell in with the enemies fleet, nearly in number and point of force to themſelves, the Engliſh were rather ſuperior, they deſcried ſoon after mid-day the enemy's fleet, at the time of the year when the days were at the greateſt length; the Engliſh fleet had the weather gage, and were ſtanding to the northward, with the wind weſterly on the larboard tack; the enemies fleet were ſtanding to the ſouthward, and were on the ſtarboard tack, and were to leeward when firſt ſeen, they were not in order of battle, but as they ſailed along they formed their Line of Battle, expecting our fleet would have given them battle, as the weather was moderate and fair, the ſea ſmooth, and all things favourable for ſuch a proceeding, but alas! this was overlooked, though there were hours enough remaining in the day to have brought the enemy's fleet to action, and to have made the engagement deciſive before the cloſe of the evening, but this did not ſtrike the idea of our commanding Admiral, though he had the weather gage of the enemy, and had it in his power to do as he pleaſed; he continued to ſtand to the northward, without taking any notice of the enemies fleet, and ſuffered them to paſs him to leeward, not more than three or four miles diſtance, without forming his ſhips in any order of battle, (tho' at ſo early an hour as between 2 and 3 o'clock,

3 o'clock in the afternoon,) till dark, and then laid too with his whole fleet all night, with their heads to the northward, when the enemy's fleet had paſſed him to leeward, and were ſtanding to the ſouthward. This was really an aſtoniſhing manœvre to every Seaman of ſenſe, or had any knowledge of his profeſſion; but ſo it was, is a truth beyond contradiction. *

The Engliſh Fleet continued to lie too till daylight in the morning, at which time they ſaw the enemy's fleet three or four leagues to windward of them, at which circumſtance the Engliſh Admiral was greatly ſurprized, and ſeemed much alarmed, he made the ſignal for the whole fleet to chaſe to windward to come up with the enemy, which he had ſuffered to paſs him the evening before unnoticed, by this time it began to be freſh gales and ſqually weather, the fleet continued to chaſe for three days with a preſs of ſail, ſeveral ſhips ſprung their maſts, carried away their yards, ſplit their ſails, &c. &c. At length, by chance a ſudden change of wind, occaſioned by a ſquall, enabled our fleet to lie up for the enemies fleet, who neither ſeemed to ſeek nor ſhun them. This ſudden change of wind brought the two fleets near each other, the French ſtanding to the ſouthward, on the ſtarboard tack, and the Engliſh ſtanding on the larboard tack, to the northward; this event brought the two fleets near to each other, † the French having the weather gage, and were

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† A Seaman remarks, when the French fleet were ſo much advanced as to be upon the Engliſh Admiral's lee beam, he ſhould have wore his fleet, and have kept to windward of them, and if he did not think proper to engage them that afternoon, he might have ſtill kept to windward of them, at a proper diſtance, and ſtood the ſame way, and when night was coming on, to have ordered his Frigates to keep between him and the enemy's fleet, to have made ſignals to him of the motion of the enemy's fleet, whether they made or ſhortened ſail, or tacked or wore, &c. and to have kept as near them as poſſible, in readineſs to bring them to action in the morning. This has ever been the actions of brave and judicious Admirals, but was not the caſe here.

† Here the Engliſh ſhips got out their longboats, and put them into the water, and put into them, as it was ſaid, a great quantity of ſtores, ſuch as cordage, blocks, canvas, and even colours, by way of clearing the ſhip for action, and then veered the longboat a-ſtern of the ſhip, with all theſe ſtores in her; the longboats being a-ſtern of the ſhips, and thought to be a great impediment to

were formed in the Line of Battle, the Engliſh came up in very irregular order promiſcuouſly, as they had been chacing, of courſe the beſt ſailors were firſt, and reached near enough to the centre of the enemies line to leeward, to receive the fire of the enemy, which they returned as they paſſed them, until the whole of the Engliſh fleet had paſſed the centre, and the rear of the enemies fleet.

NOTATION. This ſkirmiſh, which was afterwards called an engagement, ended as ſoon as the laſt of the Engliſh ſhips had paſſed the rear of the enemies line.

It ſo happened, that an Admiral, with the van diviſion of the Engliſh fleet, had ſtretched on to leeward of the enemies fleet, and coming within gun ſhot of them, gave them his fire as he paſſed them; he ſtood on, and when at a proper diſtance, tacked, and got to windward of the enemy, his diviſion being in the Line of Battle and in proper order for an engagement, had ſtretched as far a-head as to be a-breaſt of the enemies van diviſion, and waited only for the ſignal for him to engage the enemy, the other two diviſions of the Engliſh fleet having paſſed the rear of the enemies fleet, they tacked and alſo gained the wind of the enemy. Thus the Engliſh fleet had once more the weather gage, after three days purſuit, with much trouble and fatigue, let us ſee the uſe they made of this advantage.

One diviſion of the Engliſh fleet had gained the wind of the enemy, and were lying a-breaſt of their van, the reſt of the Engliſh fleet had alſo gained the wind of the enemy, and were preparing to form the Line of Battle for engaging the enemy, who were formed in a cloſe line to leeward of them, with ſeveral of their ſhips much diſabled, which was viſible to be ſeen; ſome of them had their lower yards down on their gunwale, but notwithſtanding they were in a regular cloſe Line of Battle, the commanding Engliſh Admiral was a-breaſt of with enemies centre, with the ſhips

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to the ſhips ſailing, were therefore cut away, and the boats and ſtores entirely loſt, and ſeveral ſhips loſt other boats beſides their longboats, which muſt ever be the caſe when boats are hoiſted out at ſuch times as theſe, which fully confirms what I have before mentiond, reſpecting longboats being out in time of action; I muſt obſerve, the enemy do not practiſe this method under ſuch circumſtances.

ſhips of his diviſion, the other Engliſh Admiral was a-ſtern of him, but to windward of him on his weather quarter; this Admiral's ſhip had been diſabled in her maſts, as had ſome other ſhips of his diviſion, and were repairing the damage they had ſuſtained in the ſkirmiſh; ſignals were made, and meſſages were ſent to him by the commanding Admiral to bear down with his diviſion and form the line, and then the commanding Admiral ſaid he would begin the engagement with the enemy; the two fleets lay ſome time looking at each other, it being a moſt glorious day for performing the buſineſs they had to do, but much time was loſt; at length the commanding Admiral made the ſignal to bear down and engage the enemy, which gave a general joy throughout the fleet; the van diviſion promptly obeyed the ſignal, and was bearing down, but the ſignal was no ſooner hoiſted, than it was hauled down again, at which every body was aſtoniſhed; the reaſon the commanding Admiral gave was, that the rear diviſion did not bear down, though there were good ſeamen who thought there were ſhips enough without the rear diviſion to engage the enemy; here they lay the remainder of the day and all night, in hopes that the enemy would fight it out handſomely next morning.

In the evening the rear diviſion joined the reſt of the ſhips, and here they lay anxiouſly waiting for the morning, but behold the conſequence of the break of day, ſhocking to relate, the enemies fleet were gone without waiting to fight it out handſomely in the morning, as was before ſaid. *

And ſo quietly had they ſtole away, that they had not appriſed the diſabled ſhips of their intention, or may be, they had judged it proper to leave their diſabled ſhips to amuſe the Engliſh to look at, whilſt the reſt of their fleet made their eſcape; be that as it may, their diſabled ſhips were there, and their fleet was gone. Their diſabled ſhips at break of day ſeeing themſelves deſerted by their fleet, began to make what ſail they could, and

* I muſt here obſerve, the Admiral did not ſend his Frigates to lie between him and the enemy in the night to obſerve their motions, and to apprize him by ſignals of their movements, that he might watch their motions, and prevent their eſcape in the night without his knowledge; This is a thing always done by judicious Officers, but was not done then.

endeavoured to get away, by bearing away right before the wind, they being but a ſmall diſtance from the Engliſh fleet, and to lee-ward, ſeveral ſhips were ordered to chace them, and would ſoon have come up with them, had they continued the chace, but the Admiral thought it proper to call them in, for reaſons beſt known to himſelf, and the diſabled ſhips were ſuffered to go off unmoleſted. However, the Admiral gave his reaſons ſometime after, upon a certain occaſion, which were, that he thought it unſafe to let our ſhips chace the enemy upon a lee ſhore, as the wind then was, though the ſhore was near 30 leagues diſtance. This affair made a great ſtir in this country, and was the cauſe of much debate and contention, and was decided by trials in certain courts, where buſineſs of this nature is uſually determined on, in which party rage bore a great ſway, and things were decided, ſimilar to trials of this kind that we have heard of ſome years ago, in which thoſe that do the leaſt come the beſt off, and thoſe who fight beſt, were the moſt blamed, however, there were thoſe that received public thanks, and illuminations were made upon the occaſion, but there were many who thought thoſe honours were not merited by the perſon they were meant to honour, and ſome thought another ſort of a reward would have been more ſuitable to the perſon on this occaſion, there were others who thought, and with ſome propriety, that had our fleet acted that day, as it might and ought to have done, that it would have been a glorious day for this country, and would have prevented a ruinous and deſtructive war, it would have ſaved the loſs of our national territories, and many millions of money, as well as the loſs of many thouſands of our countrymen, and would have been productive of every good to this nation; but as it happened, it was the cauſe of every evil, though there is no great ſtroke of ſeamanſhip in what I have related, but a good man may ſee where ſeamanſhip is wanting.

The Concluſion.

As I am about to conclude this Work, which I hope will be found of uſe to ſeamen in general, I muſt beg leave to offer a few hints and conſiderations to their ſerious attention, with reſpect to the goodneſs of Providence,

Providence, the reliance we ſhould have upon it, and the truſt we ſhould have in it as ſeamen; though all mankind are under the influence and direction of Providence, yet from the ſituation ſeamen are placed in, no man ſeems more immediately under the power and direction of Providence than they. This conſideration alone ſhould make them good and wiſe.

I am entirely of the opinion of the Ancients, in their inherent perſuaſion, that the Gods * aſſiſt and preſide over Human affairs, and particularly over the ſolemn engagements or promiſes made in their name, and that Providence often ſits imperceptibly in the councils of men. This tribunal, which is for ever aſſembled, though inviſible to Mortal eyes, yet governs and directs them, as ſeemeth good unto it, to bring about the wiſe decrees of the Divine Being, and I am fully convinced that nothing can happen but by the divine appointment or permiſſion, and that it is man's greateſt intereſt to know his ſupreme will, in order to conform his actions to it.

This religious principle of dependance on, and veneration of the Supreme Being, is natural to man, it is for ever imprinted deep in his heart, he is reminded of it by the inward ſenſe of his extreme indigence, and by all the objects which ſurround him, and it may be affirmed, that this perpetual recourſe to the Deity, is one of the principal foundations of Religion, and the ſtrongeſt band by which man is united to his Creator.

It has been found by Philoſophers, and the wiſeſt of men, that the greateſt exertion of human means, are frequently found ineffectual to accompliſh the end propoſed, and can we too earneſtly implore the aſſiſtance of the Deity, who alone can crown them with ſucceſs?

Thoſe who are ſo happy as to know the true God, and were choſen to be his peculiar people, never failed to addreſs him in all their wants and doubts, in order to obtain his ſuccour and manifeſtation of his will, he accordingly was ſo gracious to reveal himſelf to them, and to conduct them and to protect them, by miracles of the moſt aſtoniſhing kind.

The principles which the *Fathers of the Church* eſtabliſhed on this head, in declaring that, without true piety, that is, without ſincere

* The Ancients believed in a plurality of Gods, though I believe but in one.

worſhip of God, there can be no true virtue, and that no virtue can be ſuch, whoſe object is worldly glory, a truth, ſays the *Fathers*, acknowledged univerſally by thoſe who were inſpired with zeal and ſolid piety.

Where is the man of perfect reſignation, who upon all emergencies throws himſelf into the arms of his great Maker, conforms his will to his, and by the ſweets of the agreeable compoſure he enjoys, looks with indifference on the frowns of fortune, and is never found as other ſilly mortals, by vain murmurings, or unjuſt complaints, to call in queſtion the unſearchable deſigns of Providence, which leads me to repeat the following lines, being very applicable to my purpoſe, from what I have before ſaid.

Him fortune cannot ſink nor much elate,
Whoſe views extend beyond this mortal ſtate,
By age, when ſummon'd to reſign his breath,
Calm and ſerene he ſees approaching death,
As the ſafe port, the peaceful ſilent ſhore,
Where he may reſt life's tedious voyage o'er.
He, and he only is of Death afraid,
Whom his own conſcience has a coward made;
Whilſt he, whoſe virtue's radiant courſe has run,
Deſcends like a ſerenely ſetting ſun,
His thoughts triumphant, Heaven alone employs,
And hope anticipates his future joys.

Can we then be ſo blind, as not to diſcover an intelligence and deſign in the exquiſite and moſt ſtupendous contrivance of the Univerſe, can we be ſo ſtupid, as not to feel the warmeſt raptures of worſhip and adoration, upon the contemplation of that Intelligent Being, ſo infinitely good and wiſe.

The moſt perfect happineſs, ſurely muſt ariſe from the contemplation of the moſt perfect object, but what more perfect than beauty and virtue, and where is beauty to be found equal to that of the Univerſe, or virtue which can be compared to the benevolence and juſtice of the Deity. If aught can diminiſh the pleaſure of this contemplation, it muſt be either the narrowneſs of our faculties, which conceal from us the greateſt part of their beauties and perfections, or the ſhortneſs of

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of our lives, which allows not time ſufficient to inſtruct us in them. But it is our comfort, that if we employ worthily the faculties, here aſſigned us, they will be enlarged in another ſtate of exiſtance, ſo as to render us more ſuitable worſhippers of our Maker, and that the taſk which can never be finiſhed in time, will be the buſineſs of an Eternity.

Before I conclude, I muſt beg leave to propoſe ſome further conſiderations to the ſerious attention of ſeamen in general, and as I am a ſeaman myſelf, and have ſeen a great deal of ſervice in the 59 years I have been at ſea, and have had many a hairs breadth eſcape from the moſt imminent danger, through the goodneſs and mercy of God's Providence, at different periods of my life, whilſt in ſervice at ſea, and when I conſider the great number of ſhips and men's lives I have known to be loſt, during the time I ſerved at ſea; this conſideration ſtrikes me very forcibly, and fills my heart with gratitude, love and thanks to God, for his preſervation of me during my long ſervice at ſea, and that I never was ſhipwrecked in the courſe of my long ſervice, though often in great danger.

I therefore could wiſh to impreſs upon the minds of my brother ſeamen, a deep conviction of this great truth, that our own utmoſt ſkill, caution, vigilance and dexterity, are alltogether inſufficient of themſelves to command ſucceſs in our proceedings, or preſerve us from the many dangers and difficulties we are expoſed to, without God's all powerful protection and aſſiſtance. He whom winds and ſeas obey, is the Almighty Author of Nature alone, who formed the Univerſe, and is preſent to all the parts of it, urging or reſtraining the elements, promoting or obſtructing the deſigns of men, according to the all wiſe and beneficent purpoſes of his government upon whom our ſucceſs, happineſs and preſervation entirely depend.

How diligently then ſhould we ſtudy and endeavour, by the uſefulneſs and piety of our lives, to recommend ourſelves to his favour and protection, and religiouſly implore his direction and aſſiſtance in all our undertakings, knowing him to be only our ſure guide, our only certain help and comfort in the day of trouble.

And we may be likewiſe aſſured that it is this perſuaſion alone, and the conſciouſneſs of having endeavoured to regulate our lives according to his divine will, that can afford rational happineſs in the moſt proſperous circumſtances of this life, or inſpire us with true courage in the danger and difficulties that we may happen to be engaged in, or be entangled with in our paſſage through this life.

The virtuous and religious man, confiding in his God, will, when his duty calls, face death itſelf undiſmayed, having nothing to fear, but much to hope from it; whilſt the impious and wicked man, upon the firſt appearance of danger, is often ſtruck with ſuch a panic, as incapacitates him from acting for his own ſafety, or that of others, which may unfortunately depend upon his courage and conduct.

It would be needleſs to ſay more upon this ſubject, or to enumerate in confirmation to this truth, the examples with which Hiſtory, both Ancient and Modern abound, and almoſt every one's own experience will abundantly ſupply them; indeed in the ſeafaring line of life they occur but too frequently, and afford us convincing evidence of the truth of what has been ſaid, and alſo thoſe texts of Scripture which moſt pathetically ſay, There is no peace to the wicked, who are like the troubled ſea which cannot reſt, that they flee when no man purſueth, whilſt the righteous and virtuous man is as bold as a lion, and has peace and tranquility in his own conſcience.

The Character of a bad man.

Note. I muſt here beg leave to mention ſome characters that I have known in the courſe of my ſervice, which hurts me to mention, as their actions do not intitle them to be numbered amongſt men, and much leſs amongſt Chriſtians, though they were in high ſtations in the ſeafaring line of life, who ſeemed to hate and deſpiſe men and things that had any tendency to religion, morality, or goodneſs; who, when things happened to croſs their wiſhes, inclination, or their expectations when at ſea, and the winds and weather were againſt them, they have been ſo perverſely impious as to curſe the winds, the clouds, and the ſea, becauſe they ran ſo high, and to damn the ſhip for having ſo much motion. In this fit of rage and high diſpleaſure with the elements, and I might ſay with Providence,

Providence, but I do not think their mind ever reached ſo high, I ſhould ſuppoſe never to reach higher than the poop deck, which was over their head; if at this time an Officer happened to ſpeak to this high minded hero, who held all the elements and the world in contempt, he was ſure to get a rude unpleaſant and uncivil reply. Let us trace this tyrannical hero, this impious ſelf-ſufficient Commander, a little further, bring him into immediate danger, ſee him then! his heart fails him, and all his boaſted courage is fled, he cries like a child, and begs his Officers to take the Command of the ſhip, and becomes a puſillanimous animal. The ſame thing I have known to happen in action with the enemy, with theſe heroic ſort of men, who for the time of action were nobody, but the moment the action was over, reſumed their tyrannical conduct as before, and again became the hero the moment the danger was over. What a pity it is that ſuch a ſort of men ſhould have the command of a number of brave and good men, who would do much better without ſuch a Commander, and would perform wonders under the command of a brave and judicious Officer.

It is not neceſſary that I ſhould collect here all the faults of ſuch a man as I have deſcribed into one point of view; they are evidently groſs and cannot eſcape the leaſt diſcerning eye. We ſee in him the effects of a blind eſteem for himſelf, and ſenſeleſs preſumption which is diffident of nothing, which would believe it a diſgrace either to aſk or follow council, which always flatters itſelf with good ſucceſs, without having taken any meaſure to make it ſure, and which ſees no danger until it is impoſſible to avoid it.

The character of a good man.

He ſhews in all the actions we are ſpeaking of, all the qualities of a great Captain, vigilence, activity, foreſight, profound knowledge of all the rules of the art of Seamanſhip, and of all the ſtratagems and art of War, indefatigable attention to inform himſelf in every thing, and laſtly a wonderful addreſs in improving occaſions of times, places, and perſons, and in making them all ſubſervient to his view, in order to make him the accompliſhed Officer, and capable of ſerving and carrying on the great concerns of his country, with which he is intruſted, and to his

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King and Country he is anſwerable, and I may ſay to God, who ſends ſome men into the world, or appoints them to be the inſtruments of his vengeance, whilſt he has made others the diſpenſers of his goodneſs and mercy.

I muſt here beg leave to obſerve what is the uſe that ought to be made of the ſtudy of hiſtory, and the knowledge of ourſelves, for there being two ways of acquiring improvement and inſtruction; firſt, by our own experience, and ſecondly, by that of other men. It is much more wiſe and uſeful to improve by other men's miſcarriages than by our own.

And whoever wiſhes to be well informed of their own profeſſional knowledge, muſt ſtudy that firſt, and make themſelves well acquainted with it. Other accompliſhments they may acquire by dint of ſtudy and application afterwards, which is not ſo material for them as that of the line of their own duty, which is unpardonable for them not to know, or not to be well acquainted with.

The ſcience of human nature, is like all other ſciences, reduced to a few clear points; there are not many certain truths in this world, it is therefore in the anatomy of the mind, as in that of the body; more good will accrue to mankind by attending to the large, open, and perceptible parts, than by ſtudying too much the finer nerves and veſſels, the conformations and uſe of which, will for ever eſcape our obſervation; we therefore ſhould not enter into, nor wander into fruitleſs enquiries, much leſs to weigh our opinion againſt Providence, but piouſly to vindicate the ways of God, and with wonder and aſtoniſhment behold the Works of the Creation, and conſider ourſelves as part thereof, who have but a ſhort and limited time to be in this World, we therefore ſhould exerciſe our virtue to good purpoſes, and prepare for the great and aweful change into another World, and compare the great difference between time and eternity, and not only think how it is with us now, but how it will be with us when we come to die, and how it will be with us ten thouſand times ten thouſand years after we are dead; this awful thought ſhould keep us right whilſt we are here, and we ſhall reap the benefit hereafter in a future ſtate.

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A hint to Commanders and Officers when a ſhip is in diſtreſs at ſea.

Upon any ſudden accident or diſtreſs happening to a ſhip at ſea, has often ſtruck the crew with ſuch panic, as to occaſion them in many inſtances to act contrary to ſenſe and reaſon, and to take the worſt, inſtead of the beſt means or methods for their ſafety or relief; their minds being ſo agitated and diſcompoſed at ſuch times, that they really give themſelves up for loſt, without ſeeking the proper remedy to extricate themſelves from the dangers or difficulties that ſurround them, therefore the Commander and Officers of ſuch a ſhip, ſhould maturely conſider this, and uſe their utmoſt endeavours to ſay all that is thought poſſible to be of any ſervice to thoſe valuable ſet of men on theſe melancholy occaſions, as far as circumſtances and ſituation can be deſcribed to them, in the ſituation they may then happen to be in. It is at ſuch times as theſe, as well as at all other times, that the Commander and Officers ſhould endeavour to be thought well of by the ſeamen under their command, whoſe good will to, and opinion of their ſuperiors, will ever produce good effects. Indeed I muſt ſay, it is ſo proper and political a ſyſtem in the actions of a man's life, who has many people under his command, to endeavour by every juſt and plauſible ways and means to be thought well of by the ſeamen under their command, whoſe good will to and good opinion of their ſuperiors will ever produce good effects.

A caution with reſpect to Pilots

I muſt beg leave to make one obſervation more on the opinion of ſea-faring men in general, which I know by experience to be a fact, which is, when a ſhip is returning from a voyage and is got into Pilot water, and a Pilot comes on board, the Commander or Officers think their care or trouble is at an end, and leaves the care or conduct of the ſhip to the Pilot, who he thinks ſufficient to take care and to conduct the ſhip, which to my certain knowledge has been the cauſe of the loſs of many ſhips, through the want of ability in the Pilot, who are often not the kind of men they are thought to be, and though they may be the Pilot, and know the way through the channel the ſhip is to paſs, and know how to keep water enough under her, when they are properly aſſiſted, yet are often found not to be good ſeamen, nor do they know how to work a ſhip as ſhe ought to be, or to manage the ſhip under every occurrence that may happen to her in narrow waters, ſurrounded with ſhoals, ſands, rocks or danger. It is at ſuch times as theſe, that the Commander or Officer and

careful ſeaman muſt ſtill take care to him, and obſerve the conduct of the Pilot, and ſee if he is a man of ſobriety, care, and judgment in his profeſſional knowledge as a Pilot, and to give him proper aſſiſtance in the management of the ſhip, while ſhe is under ſail in Pilot water, and I would recommend it to the Commander or Officer of the ſhip, to work the ſhip himſelf, or appoint a judicious Officer who is a Seaman, and one who knows what the ſhip will do, when ſhe is working in narrow water under the direction of a Pilot, who will tell him when the ſhip is to be put about, the ſhip always to be ready, and not to heſitate a moment to put the helm a-lee, and putting the ſhip about when the Pilot directs it to be done, and ſtrictly to follow all the Pilot's directions when the ſhip is under ſail in a tide's way in Pilot water.

And when the Pilot wants to anchor the ſhip, that ſhe may be brought to anchor as he deſires, the Pilot being anſwerable for the ſafety of the ſhip either at anchor, or under ſail, when in pilot water, and no man ſhould contradict, thwart, or perſuade him to do any thing contrary to his own opinion, but to aſſiſt him in his duty, unleſs they find him acting wrong, but this requires more ſedate thought, knowledge and experience than officers and ſeamen have in general of this buſineſs, therefore a man ought to be cautious how he intermeddles in the buſineſs of a Pilot, it being a thing of very ſerious conſequence, yet there may be times when the interference of a Commander or experienced Officer, may be neceſſary and very proper, at particular times, when there is an apprehenſion of danger, or any difficulty may ariſe from particular circumſtances, or the ſituation the ſhip may be in from bad weather, &c.

Or when the Pilot may be overcome by fear, which I have known to happen, then the Commander, judicious Officer, and experienced Seaman, may with great propriety interfere, when they ſee the Pilot act a part contrary to ſenſe, reaſon and experience. In ſuch caſes I have myſelf many times interfered by gentle and cool reaſoning with the Pilot, in the following manner: I ſee you propoſe weighing the anchor and getting the ſhip under ſail, have you well conſidered what you are going to do, have you conſidered and weighed all things properly in your own mind, and the conſequences that may happen in attempting to get the ſhip under ſail in her preſent ſituation, give me leave to tell

you

you my opinion of the matter you are about to attempt, in the firſt place, it blows a ſtrong wind, you are ſurrounded with ſands and dangers, and you are confined within a narrow ſpace, where the ſhip has but little room to act in, if you are going to work to windward, will you have time to heave up your anchor and ſtow it before you make ſail, if not, your attempt will be raſh and highly blameable; if you mean to bear away and go before the wind, if the Channel lies that way, in that caſe do you think you have time to heave up the anchor and ſtow it before you want to wear the ſhip. I muſt tell you this ſhip will not wear readily with the anchor hanging at her bows by the cable, if that ſhould happen to be the caſe, what muſt be the conſequence? I will tell you, to prevent the ſhip running upon the ſand or danger that is ſo near you, you muſt or may be obliged, to come to an anchor, in great confuſion, with all your ſails looſe, and it is doubtful if one anchor is ſufficient to bring the ſhip up under theſe circumſtances, if ſo, you may be obliged to let go two anchors, and your ſails are all flying about and cannot be handed before the ſhip is brought up, by which you may run the riſque of parting your cables, or your ſhip may drive upon the ſands or danger, before you can hand your ſails and bring the ſhip up, and the conſequences may become very ſerious; if I were to adviſe you, it ſhould be, not to attempt getting the ſhip under ſail as things are circumſtanced, but to give the ſhip a proper ſcope of cable to ride at her anchor with ſafety, and to watch the firſt favourable opportunity of getting the ſhip under ſail, when winds and weather will admit. In this way of arguing, I have many times prevented the intention of the Pilot, which he afterwards upon cool reflection owned to be right, and thanked me for my advice. Many are the inſtances I have known of ſhips and lives loſt, by the injudicious conduct of Pilots, who, like other men, are liable to be overcome with fear in the time of trouble, which has deprived them of their reaſon, and has occaſined the dreadful diſtreſs I have known to happen to ſhips. I therefore made it my ſtudy to find out the Pilot's abilities, by converſing with him at proper times touching his profeſſional knowledge, that I might know how far I might rely upon him. There is one thing I muſt beg leave to obſerve, which ſhould be ſtrictly forbid, which is, that nobody ſhould be permitted to enter into a converſation

or aſk queſtions of the Pilot when the ſhip is under ſail, and immediately in his charge, as it may take off his attention from his duty and may produce ill effects.

I have ſaid, many are the inſtances I have known of ſhips and lives loſt by the injudicious conduct of Pilots, who, like other men, are liable to be panic ſtruck, which has deprived them of their thinking or acting right. At ſuch times as thoſe, when difficulty and danger ſtare a man in the face, it is then the truely brave, judicious, and experienced Seaman is ſeen to the greateſt advantage, he ſhines like a brilliant ſtar, and gives ſpirits, joy, and comfort to all about him: To ſuch men as thoſe I give due praiſe, and to whom I have known many ſhips, cargoes and lives ſaved by their judicious conduct, when the Pilot had been at a loſs how to act. This ſhews that there are times when a man may with propriety interfere with the Pilot, eſpecially when he finds that his own knowledge and experience is ſuperior to the Pilots.

Before I quit the ſubject of the Pilots, I muſt mention one more anecdote of them, which is a great error amongſt them in general, which is, when they are at anchor in a tide's way in Pilot's water, they are very averſe to a ſhip's having a proper ſcope of cable to ride her, they will only have a ſhort ſcope to ride the ſhip by, as they ſay they are to weigh anchor at tide time, they are ſo much the readier, under that idea they certainly are right, but they do not conſider when it comes on to blow freſh, how much ſtrain the ſhip rides by her anchor and cable with a ſhort ſcope, to what ſhe would do with a longer ſcope of cable, they only conſider the time and trouble it takes to heave in the cable. I anſwer, it is but beginning the ſooner to ſhorten in the cable, and therefore the ſhip ſhould have a proper ſcope, that ſhe may ride eaſy at her anchor.

I muſt beg leave to relate a circumſtance that happened to me when I commanded a ſhip in the Jamaica trade, I had had a Winter's paſſage from Jamaica in a very deep Sugar-loaded ſhip, and had a very troubleſome unpleaſant paſſage. I got in the Downs very early in the morning, it had been very ſtormy weather for three or four days before we got to the Downs, ſo that we came up the Channel in a violent ſtorm, and ſaw no land from the Lizard to Beachy-Head; myſelf and people much jaded

with

with fatigue, we came into the Downs with the wind at WSW with drizzling rain, and anchored with the beſt bower. I got a Pilot on board, a man I knew, he had piloted my ſhip three or four voyages, but, like other Pilots, was diſinclined to give the ſhip much ſcope of cable. We had not been in the Downs more than half an hour, when the wind flew from WSW to NW, and began to blow ſtrong, I adviſed the Pilot to veer away a whole cable on the beſt bower, as it appeared a gale of wind was coming on, he ſaid the ſhip had cable enough to ride her; I anſwered, that it was better to veer away the cable before it came to blow hard, as there would be a riſque in veering away the cable when it came to blow very hard in parting it; the gale kept increaſing, we ſtood by the ſheet anchor, and wore away the beſt bower, with intention to give the ſhip a large ſcope, the cable parted, let go the ſheet anchor, and brought the ſhip up, gave her a large ſcope, and rode out the gale, which was the moſt ſevere that had been for many years, very few ſhips rode out the gale, ſeveral were loſt on the Goodwin Sands, and many were drove to ſea. This gale happened the 14th of March, 1751, our ſhip was amongſt the very few that rode it out, for which we were thankful. I mention this to ſhew the abſurdity of Pilots; had we wore away our cable in the firſt of the gale as I propoſed, we ſhould not have parted our beſt bower, which made me much diſpleaſed with the Pilot, and I could not forgive myſelf for being over-perſuaded by a man of leſs experience and inferior judgment to myſelf; yet he was a good man, and from that time to the preſent moment I was determined never to conſult a Pilot about the ſcope of cable it was neceſſary to give a ſhip when at anchor.

I have known a great number of accidents, and loſſes happen from the cauſe of ſhips lying at anchor, with a ſmall ſcope of cable, when in Pilot's water, and chiefly from the miſtaken idea of the Pilot's giving the ſhip ſo ſmall a ſcope of cable, perhaps the mizen topſails ſet and aback, the tide begins to ſet ſtrong, and the wind begins to blow freſh, the people who have the watch are inattentive, they neither call the Pilot nor give the ſhip a ſufficient ſcope of cable to ride her, the anchor comes home gradually, and keeps tripping along the ground, ſometimes it brings the ſhip up, and rides her for a little time, and then ſtarts and

trips

trips along the ground again, and ſo the ſhip keeps driving imperceptably or unnoticed by the people of the watch, till ſhe drives upon ſome ſand or ſhoal that is neareſt her, they are then alarmed of their danger when too late; many ſhips have I known to be loſt in this way, who never got off the ſand they drove upon.

I was once in a capital ſhip of the Navy, riding between the ſands at ſingle anchor in night time, it was fine moderate weather in the evening, I had left orders for me to be called at 12 o'clock to attend the ſhip at high water, clear of her anchor, but at 11 PM. it came to blow ſtrong, with rain, which cauſed me to wake; I went upon deck and found the Officer of the watch not there, but in his cabin, the Mate much in liquor, no Midſhipman upon deck, nor any body looking out, the mizen topſail hoiſted up, and a-back, though at that time it blew a ſtrong gale of wind, with much rain. I ordered the mizen topſail to be lowered down and furled, I found the ſhip had drove, and that we were in a ſhip's hawſe, with her jib boom over our taffrail. It was high water about one o'clock, but before high water it came on to blow a ſtorm of wind, with much rain, we were obliged to ſtrike yards and topmaſts, but could not veer a fathom of cable without being on board the ſhip, in whoſe hawſe we were; fortunate for us, this ſhip was moored; when the ebb tide made, we ſwung clear of this ſhip a-ſtern of us, we veered away and moored ſhip in the beſt way we could, to keep clear of the other ſhip; it was a lucky circumſtance that our anchor had dragged foul of the other ſhip's anchor, which brought us up; if it had not, we ſhould have drove on the ſand which was to leeward of us, and the ſhip muſt have inevitably been loſt, for the ſtorm continued for 48 hours afterwards; This misfortune happened through the negligence of the Officer of the watch, who eſcaped with impunity. This ſhews that King's ſhips at times are no better care taken of than other ſhips. When the weather moderated, and we unmoored in order to new birth the ſhip, we found our cable ſpoilt by the other ſhip's anchor. This ſhews the ill conſequence of a bad look-out when a ſhip is lying at ſingle anchor, for which reaſon, I would adviſe it as a general rule, for Men of War not to lye long at

ſingle

ſingle anchor. Our ſhip was bound to ſea, and on foreign ſervice, with a convoy of great conſequence.

I hold the Art of Navigation in the higheſt eſteem, and wiſh all imaginable ſucceſs to Navigators in general, and hope every one will contribute ſomething towards the improvement of this noble art, by their accurate obſervations, wiſe and judicious remarks, and in order to excite emulation in our navigators, if thoſe of the greateſt capacities, and who had uſed their utmoſt deligence in making the moſt accurate obſervations and uſeful remarks, ſhould be noticed in a particular manner, by being rewarded with a Medal, or have their names made honourable mention of, to the Public (which would gratify ſome men more than a rich preſent) this method of acting would induce every man capable of making ſuch accurate obſervations and uſeful remarks, to contribute all in his power towards the *Public Good*, when at the ſame time it would tend ſo much to his own honour and reputation; and is it not reaſonable, the theory of navigation ſhould owe its improvement to that Nation whoſe Sea Officers are allowed to excel all others in the practical part thereof? and I hope they will in the courſe of their ſervice, not only enrich themſelves, but be inſtrumental alſo in enriching their country, with reſpect to improving its navigation, which ſome of them are very capable of doing.

Theſe obſervations and remarks I have the more willingly ſubmitted to public view, that time and opportunity might rectify miſtakes, and that by the addition of freſh obſervations, and the induſtry of art, the whole might be at length improved into a common ſtock of uſeful knowledge.

I ſhall now conclude with my beſt and moſt ſincere wiſhes for the ſucceſs of Navigation and Navigators in general, and hope what I have mentioned in the aforegoing pages, will be found of ſome inſtruction and uſe to them; if it does, my end will be anſwered, as my ſole intention is to commnnicate to them all the knowledge I have acquired in a long ſervice of *Fifty-nine Years at Sea*, and if they will read with attention, they will ſee my aim and deſign, which is, to furniſh them with a proper knowledge of their profeſſional calling, and that they may become uſeful ſubjects to their King and country, and ornaments of Society,

and

and that their virtuous actions may entitle them to be numbered amongſt the virtuous, good, and deſerving of mankind, is my utmoſt wiſh, and ſhall beg leave to inſert the following lines, they being applicable to my purpoſe.

So gracious God, if it may lawful be,
Amongſt thoſe fooliſh Gods to mention Thee,
So let me act on ſuch a private ſtage,
The laſt dull ſcenes of my declining age,
After long toils and voyages ſpent in vain,
This quiet port, let my toſt veſſel gain,
Of Heavenly reſt, this earneſt to me lend,
Let my life ſleep, and learn to love her end.

THE END.

Erratas in Mr. *William Nicholſon's* Work.

Page.	Line.		
23	23	*inſtead*,	SWbW, *read*, SWbS
	27	. .	within, *read*, without
26	4	. .	5° 14′W. *read*, 5° 14′W. from London
40	13	. .	he, *read*, ſhe
66	2 of the Note*		11° 50′ E. *read*, 12° 50′ E.
67	16	*inſtead*,	effect, *read*, affect
75	18	. .	cauſe, *read*, courſe
84	19	. .	NbW. *read*, NW.
86	22	. .	See Page 84. *read*, See Page 100
110	31	. .	Southweſt, *read*, Southward
116	9	. .	which, *read*, which when ſo
	20	. .	Jib foreſtay ſail, *read*, Jib and foreſtay ſail.
118	13	. .	ſtake, *read*, ſhake
120	1	. .	tight, and there, *read*, tight, which is an unpardonable Error, and there
128	5	. .	under ſail. The Yards, *read*, under ſail. I will ſuppoſe the Yards
129	21	. .	looſes, *read*, loſes
139	13	. .	think now, *read*, think how
140	13	. .	to be reefed, *read*, to be reeved
144	7	. .	ſhould the clew garnet, *read*, ſhould the lee clew garnet
151	7	. .	Weymouth, *read*, Woolwich
152	10	. .	a raking ſtern, *read*, a raking ſtem
160	30	. .	Commons, *read*, Comings
165	28	. .	keep the ſhip in her Courſes as before, *read*, then keep the Ship her Courſe as before
182	5	. .	hand, *read*, hang
183	31	. .	prevent too, *read*, prevent ſo
	32	. .	the Courſe of in, *read*, in the Courſe of

Page.	Line.	
184		In the third Marginal Note, *inſtead* of the Words, (the Method of putting) *read*, The Method of ſetting
185	15	*inſtead*, as ☞ Margin, *read*, as above-mentioned
191	. .	. . we did the main main topmaſt, *read*, main and main topmaſt
193		In the ſecond Marginal Note, *inſtead*, how they are effected, *read*, how they are affected
199	7	After, the Eaſt Indies, *read*, See Page 111
202	8	*inſtead*, fore braces are, *read*, fore braces were
296	28	. . bear themſelves, *read*, bear them
	32	. . can, *read*, cannot
217	22	The Words (ſhe proved) to be omitted
226	26	*inſtead*, of 8 inch cable, laid hawſers, *read*, of 8 inch cable-laid hawſers
239	1	of the Bottom Note, *inſtead*, Here I muſt leave, *read*, Here I muſt beg leave
243	11	The Iſland of Aſcenſion's Long. *inſtead*, 14° a5′W. *read*, 14° 25′W.
	20	*inſtead*, great deal away, *read*, great deal of way
247	30	. . N 40° W, *read*, N 49° W
259	21	. . to clear away the, *read*, to clear away a
281	4	. . got the Spritſail, *read*, got the Spritſail Yard
294	28	. . at anchor unmoleſted, *read*, at anchor all night unmoleſted
300	1	Of the bottom note marked *, *inſtead*, Ships in her, *read*, Ships on her
302	15	*inſtead*, near, *read*, rear
311		The firſt bottom note ſhould be marked thus * inſtead of †

APPENDIX.

INTRODUCTION.

IN all the great concerns in this world, and the actions of men in every ſphere of life, particularly thoſe who are raiſed to great ſtations, above the common level of mankind, their actions become more conſpicuous to the world than thoſe of the lower claſs, and, as it were, held up to public view, their virtues or their vices are applauded or condemned, as they may happen to appear to the world; it ſometimes has happened that virtuous men are blamed for their virtues, and bad men are praiſed for their vice and folly, ſo capricious is Dame Fortune, who ſeems to be no real friend to virtue, nor does ſhe ſeem to be fond of the company of men of merit, ſhe is therefore very properly called a fickle miſtreſs, and too often beſtows her favours upon the moſt worthleſs of men, whilſt ſhe frowns on the man of virtue; and it often happens that ſhe brightens up the ſmalleſt actions of ſome men, whilſt ſhe draws her black bruſh over the meritorious actions of others, and is both unjuſt and unkind to ſome men, while ſhe laviſhes or indiſcriminately throws away her favours upon others*. When I conſider this fickle goddeſs (as ſhe appears to be) it brings to my mind the uncertainty of human affairs, and how little a wiſe man will rely upon them, either in great or ſmall things, in the great concerns of this life: one's actions are praiſed as the greateſt that ever happened or were tranſacted by men, another's actions (though perhaps well deſigned) miſcarries;

* Thus her blind ſiſter, Fickle Fortune, reigns,
And undiſcerning, ſcatters crowns and chains.

it is then called the moſt ridiculous, irrational undertaking that ever was thought of, and the perſon is condemned, without conſidering who it is that governs all human affairs, and that there is a deſign in Providence in all the tranſactions of human life, that his decrees muſt be fulfilled, and man is the inſtrument that God has deſigned to bring about all human events, who turns them according to his godly wiſdom. When I conſider this in a religious point of view, I am fully convinced that nothing can happen but by Divine permiſſion, if this be granted, I beg leave to obſerve, that man is but an agent acting under the Divine influence, who puts it into his heart to do this or that, not according to his own impulſe, but according to the will of Providence, to bring about human events to fulfil his decrees. If I reflect upon this in the light a good man ought to do, what ſhall I ſay on the melancholy event I am about to mention, which fills me with the deepeſt concern to relate, that is, the loſs of the Royal George, and how unfortunately ſhe was loſt, when under the direction of officers of ſuch knowledge and long experience in naval affairs as they were; this confirms me in the opinion I have ever held, which is, that Providence at times permits us to conduct ourſelves in ſuch a manner as to bring on our own ruin and deſtruction, and alſo that of others, which occurred by the dreadful accident that happened in the loſs of that Ship, and ſo many hundred lives. This I call an act of Providence, which was decreed to happen to bring about certain human events, which nothing earthly could prevent, and, I think, ſhews that long life, great experience, and the moſt perfect knowledge of our profeſſional duty, avails us but little, if he has determined certain events to happen to fufil the decrees of his Almighty pleaſure: in this caſe, it ſeems to me as if he permitted a curtain to be drawn between a man and his ſenſes, reaſon, and experience, and permits him to do that which brings on his deſtruction and death: I pray God I may never be left in ſuch a diſmal ſituation. This is what is called an accident; I call it a human event of the moſt extraordinary nature, and ſhould be held up to poſterity as a beacon or a ſea-mark to them to avoid ſuch danger in ſimilar caſes, as it is more profitable to improve by other men's

men's miſcarriages than by their own, there being two ways to gain knowledge, firſt, by our own experience, and ſecondly, by that of other men.

I ſhall now give a brief account of the loſs of the Royal George, which is grievous for me to relate, but ſincerely hope good may reſult from it to poſterity and the riſing generation, that it may ſink deep into their minds, and make them cautious in conducting themſelves in ſimilar caſes: and as I have had occaſion to mention ſeveral circumſtances more pointedly with reſpect to ſhips and accidents that happened to them at particular periods of time, and have repreſented their being improperly conſtructed, which was very much the caſe twenty-five or thirty years ago; but length of time, the deſtroyer of all things, has demoliſhed the ſhips, and thoſe that conſtructed them are long ſince in eternity. Since that time we have in ſome things improved in the conſtruction of our ſhips; that we may continue ſo to do, until we arrive at the height of perfection in Naval Architecture, and that our ſhips may be proper for the end they are deſigned, are the ſincere wiſhes of the Author.

Some Remarks and Obſervations on the Loſs of his Majeſty's Ship ROYAL GEORGE, *at* Spithead, *in Auguſt* 1782.

AS this is a circumſtance, at the time it happened, that cauſed as much national concern as any event that has happened at any period of time, which was at a time we were in great want of both ſhips and men, and the nation was uſing its utmoſt exertion to carry on the war it was then moſt deeply involved in, being at war with America, France, Spain, and Holland, which made the loſs of ſo capital a ſhip as the Royal George, a firſt rate, and ſo many hundred ſeamen, moſt ſeverely felt; this cauſed a general concern, and the

the more ſo, as there was a brave and experienced Admiral loſt in the ſaid ſhip, and it happened but a few days before the Grand Channel Fleet was to ſail to the relief of Gibraltar: and as this was a thing that cauſed much conſternation, and may cauſe much inquiry in future times by the riſing generation, I ſhall endeavour to repreſent the misfortune of that ſhip as it really happened, to the beſt of my knowledge, for the benefit and ſatisfaction of poſterity, as I was at Portſmouth at the time that fatal accident happened, which was as follows:

The Royal-George being a firſt rate, and a flag ſhip, with Admiral Kempenfelt's flag on board her, being one of the Grand Fleet, who were ſoon to ſail to the relief of Gibraltar, and was lying at Spithead with the reſt of the fleet; and having nearly all her ſtores and proviſions on board, and was pretty deep in the water, as ſhips are when they have all in ready for ſea, and might have proceeded on her voyage with great propriety; but ſome ill fate hung over her, which gives me pain to mention, when I ſee the idle and whimſical ideas of unthinking men, though trifling in their nature, produce things of the greateſt conſequence, which makes it grievous to think of or reflect upon.

The officers of the Royal George had whimſically contrived a ciſtern in the pump-well, ſomething below the line of floatation, a hole was bored through the ſhip's bottom, and a leaden pipe put into it, which led to the ciſtern in the well, with a braſs cock to let the water into the ſaid ciſtern, in which was fixed a pump, to pump the water upon deck, for the conveniency of waſhing the decks, this leaden pipe was accidentally broke, and they repreſented it to the Admiral, who was but juſt come to the ſhip, that the ſhip ſhould be heeled to put in another pipe, which the Admiral conſented to, and ſent aſhore to the Dock-Yard, and acquainted the officers of his intention to heel the ſhip to put in another pipe.

When I heard of this by the officer who came from the Royal George by the Admiral's orders, I was very ſorry, and aſked the officer if he did not think there was a great riſk in heeling the ſhip when ſhe was ſo deep in the water, and had all in ready for going to ſea; he anſwered, by ſaying, they did not think there was: I ſaid, if I ſhould ſee the

Admiral,

Admiral, I would give him my opinion that there was a great riſk in heeling the ſhip. The next day the Admiral called upon me at my office; I was always glad to ſee him, and bore him a great eſteem: we fell into a converſation, which turned upon heeling the Royal George.

The eſteem I had for this great officer, and the knowledge I had of him and his great merit, and the many years I had known him in the Eaſt-Indies, and the great reſpect I had for him, induced me to enter with more freedom into the ſubject we were then talking upon, the heeling the Royal George, and was ſimply as follows: "Sir, you are an officer, whoſe knowledge and long experience muſt have furniſhed you with, and juſtly entitles you to judge of, the propriety of thinking whether the Royal George may be heeled with ſafety, and without any riſk; this I ſubmit to your ſuperior judgment and underſtanding." He replied, "The officers of the ſhip tell me they heeled her once before, to perform the ſame kind of ſervice, and that no accident happened from ſo doing, which induced him to believe the ſame might be done again without riſk." I replied by ſaying, "When that was done the ſhip was perhaps not ſo deep in the water as ſhe is now, and that the ſhip was ſomething older than ſhe was at that time; ſhe was an old ſhip, and that there was a riſk in heeling a ſhip, but more ſo in an old ſhip as ſhe was, and that the heeling a ſhip ſtrained her very much, and conſequently it muſt do ſo to the Royal George;" and further enforced my argument by ſaying, "it was not a work of neceſſity, therefore the leſs to be ſaid for the riſk there was to be run in heeling her without an abſolute neceſſity:" I ſaid if ſhe had ſprung a leak, and it was therefore neceſſary to heel her to ſtop the ſaid leak, as the ſhip was going to ſea with the fleet, and at all events ſhe muſt proceed on ſervice, in ſuch a caſe all riſks muſt be run in heeling the ſhip to ſtop the leak; but as that was not the caſe, I did not ſee the neceſſity of running ſo great a riſk.

Indeed, I honeſtly acknowledge that I made uſe of every argument in my power to diſſuade my much-eſteemed friend from his deſign in

heeling the Royal George, merely out of reſpect I had to him, and the good of the ſervice; and I was happy that in the courſe of our converſation, from what I had ſaid to him, and his own good ſenſe and underſtanding, he was pleaſed to ſay, that he believed he ſhould decline heeling the ſhip, for the reaſons I had given, which he had weighed in his own mind, and which ſeemed reaſonable to him. I ſaid, I was happy to hear that he had declined the thoughts of heeling the ſhip: this ended our converſation, on the morning before the Royal George was overſet, and I bade my much-eſteemed friend good morning, little thinking that it was the laſt time that I ever ſhould ſee him, as it proved to be.

The Admiral parted from me, and ſeemed to be determined not to heel the Royal George; but from what cauſe, or for what reaſon he altered his mind, I cannot ſay, but he went on board the ſhip that evening to ſleep, in order to ſee that all things ſhould be properly conducted in heeling the ſhip, in order to prevent accidents: ſo far his honeſt heart and mind went together for the good of the ſervice; but, Oh! how ſhall I relate the fatal conſequences that followed the heeling the Royal George? Diſmal to relate! the ſhip overſet, the Admiral drowned, with many of the officers, and ſeveral hundred ſeamen; three hundred and thirty-one men were all that were ſaved out of this unfortunate ſhip's company. I am at a loſs to account for this fatal accident, in which I loſt my friend Admiral Kempenfelt, which was a national loſs, with a ſhip of the firſt rate, and five hundred and forty-four ſeamen. How can we account for this? Had the accident happened to any other man, of leſs judgment, leſs experience, leſs attention, or leſs care, and the ſhip was commanded by an officer bred in the ſervice, and of long ſtanding as an officer, was eſteemed a ſeaman and good officer, a man I had known for many years, and the Admiral was the cauſe of his preferment; under ſuch an Admiral, and ſuch a Captain, I ſhould not have expected ſuch an accident to have happened; but, alas! this ſhews us the frailty and fatality of mankind, and what poor creatures we are when left to ourſelves. This confirms me in my opinion, that I have ever been poſſeſſed of, that there is a fate

hanging

hanging over our heads that we cannot evade*, and that Providence permits us to act or do that which brings on our own deſtruction, and ſuffers us to act in ſo blind a manner as to be the very cauſe of our own ruin, and brings us to our latter end, which ſeems to be the caſe at this time, when it appears as if there was a curtain drawn between men and their ſenſe, reaſon, and experience, that long life has furniſhed them with, which I ſhall endeavour to ſhew by relating the proceedings of heeling the Royal George, which were extraordinary and ſingular, and what was contrary to the uſual practice of the ſervice in ſuch caſes, which gives me pain to relate, as it is a ſevere reflection on the ſervice, and I think muſt give pain to every ſeaman and officer in it, who eſteem themſelves ſuch, and has any love or regard for their country; it brings it to the amount of a national reflection on Britiſh ſeamen.

I ſhall now relate the manner the Royal George was heeled, having before given an account for what ſhe was heeled, and ſhall relate it as circumſtantially as it really was, for the benefit of the riſing generation and poſterity, that they may ſee by what means ſuch a fatal accident happened to the nation.

The manner uſed to heel the Royal George.

The Royal George was lying at Spithead, being one of the fleet that was going to the relief of Gibraltar; ſhe was lying in a tide's way, and was heeled in the following manner, which ſhocks me to relate. The ſhip was heeled to port, all the lower deck guns on that ſide were run out, of courſe the lower deck ports were open, and the ſtarboard guns on that deck were eaſed in as far as the breechings would let them, and the middle and upper deck guns were got over from the ſtarboard to the larboard ſide, and all the ſhot on thoſe decks were alſo got over on that ſide, and every other thing that was moveable; there came along-ſide two hoys with proviſions from the victualling-office, one of

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* God ruleth among the inhabitants of the earth, and God conducteth what men call chance. Nothing, nothing comes to paſs through a blind and undiſcerning fatality; ſo that what we term caſualty, is really Providence accompliſhing deliberate deſigns. If accidents happen, they happen according to the exact fore-knowledge, and in conſequence of the determinate counſels of Almighty wiſdom.

which was cleared of about thirty tons, all of which was put on the lee ſide, or on the larboard ſide; the lower deck guns being run out, ſome of them in the midſhip, which were in the way of the hoys, were hauled in, that they might lie along-ſide to be cleared; one hoy being cleared was veered aſtern, and the other got along-ſide to be cleared, and the proviſions all put on the larboard ſide, in order to heel the ſhip, or make her heel more than ſhe did: with all this on the larboard ſide, ſhe had a very great heel, and the water between decks was many ſtrakes upon the lower deck fore and aft; it was nearly as high as the ring bolts that were drove upon a line with the comings of the lower deck hatchways, and the ſills of the lower deck ports were within five or ſix inches of the water, ſo that the people on the lower deck thought the water within board was upon a line with the water without board, this was owing to the lower deck ſcuppers not being plugged. In this precarious ſituation ſeveral people began to think the ſhip in danger, and perceived her, as they thought, to ſettle in the water; this induced the Carpenter of the ſhip to go on the quarter-deck to the Captain, to repreſent the ſtate of the ſhip, and the danger he thought ſhe was in, and adviſed righting the ſhip: the Captain ſeemed diſpleaſed with him, and gave him an unpleaſant anſwer; the Carpenter left the quarter-deck, and went to his duty, as the Captain had ordered him, and ſeemed very much affected at what had been ſaid to him by the Captain. The Admiral was upon deck at that time, and retired to his cabin but a few minutes before the ſhip overſet; what paſſed between him and the Captain we do not know, but ſome time or ſoon after the Carpenter went from the quarter-deck*, the Captain thought proper to order the drum to beat for righting the ſhip; the people being on the weather-ſide of the deck, as we will call it, haſtily got up and ran to leeward, or to the midſhips, in order to get the guns over to right the ſhip, this gave the ſhip a ſally to leeward, or to port, which immediately overſet her, and ſhe ſunk in the ſame poſition that ſhe was when on the heel, and carried down the victualling hoy that

* Being the third time he had been there on the ſame buſineſs.

was

was clearing along-ſide of her. Such was the fate of the Royal George, who was as indiſcreetly loſt as ever ſhip was, notwithſtanding the experience and judgment of the great officer that was in her.

The officers ſaved out of the Royal George were the Captain and four Lieutenants; the Boatſwain and Gunner were ſaved by being aſhore. The officers drowned in her were, the Admiral, four Lieutenants, the Maſter (who had come on board but a few minutes before the ſhip overſet) the Carpenter, the Surgeon and his four Mates, Major of Marines, and one Lieutenant of the ſame, four Maſter's Mates, and ſeveral petty officers.

Reflections on the loſs of the Royal George.

Let us rightly and ſeriouſly conſider how this ſerious event happened; at this criſis of time, nothing could be of ſuch conſequence to the nation, and to a ſhip under the direction of two ſuch able officers, who ſtood ſo high in the opinion of people in general in the naval line as the Admiral and Captain did; and let us compare one thing with another, as they really happened, and from thence draw, if we can, a rational concluſion of the cauſe of human events, as far as they can be carried by the idea of the human mind with reſpect to men and things; we here ſee men who were eſteemed good ſeamen, and one a great officer, we ſee them fail, or fall ſhort of their profeſſional knowledge in the duty they had been ſo much uſed to, and, it is ſuppoſed, muſt have been very familiar to them; yet we ſee thoſe men upon this occaſion acting their part ſo contrary to what they were ſuppoſed to know as ſeamen, that they acted contrary to common ſenſe, reaſon, and experience, inſomuch that men of leſs experience, and with leſs ſenſe or judgment in a ſeaman's or officer's duty, could not have acted with greater impropriety: I therefore ſhall not impute it to their want of ſenſe or knowledge in their profeſſional duty, but believe it to be a fate which hung over their heads, which they could not evade. I am fully convinced, that nothing can happen but by Divine appointment or permiſſion, and that Providence permits us to act or do that which brings on our own deſtruction, and, at particular times, ſuffers us to act in ſo blind a manner as to be the very cauſe of our own ruin, and brings us to our latter end; which ſeems to be the

caſe at this time, when it appears as if there was a curtain drawn between men and their ſenſe, reaſon, and experience, that long life and ſervice had furniſhed them with, and that men cannot ſhun their fate that Providence has decreed to happen. This is, as ſome will ſay, my ſimple opinion, which is founded on weakneſs and fooliſh ſimplicity; allow it to be ſo, I readily will acknowledge my own weakneſs, and will ſuffer them to think as meanly of me as they pleaſe, but muſt beg leave to remind them of that text of ſcripture mentioned by our bleſſed Redeemer, that a ſparrow cannot fall without God's permiſſion; allowing this, then how much leſs could ſo many hundred ſouls as were loſt in the Royal George, be ſnatched out of the world in an inſtant of time, and unprepared to enter into a future ſtate? Let the critics, the gay, the thoughtleſs, and inconſiderate part of mankind, anſwer this in their own way, or as they pleaſe, it will not alter my opinion of God, or the goodneſs of his Providence, which brings another text to my mind, which is, "Shall a man expect good of God, and not expect evil alſo."

I ſhall now proceed to the heeling the Royal George, with reſpect to what we call acting with common ſenſe and reaſon, and uſual actions of men of experience, as theſe officers were who had the direction and management of the heeling the Royal George; and compare the actions and thoughts of men with the decrees of the all-wiſe Providence, and let vain man draw his imperfect concluſions, and, if he can, account for this dreadful accident happening, with all his erring wiſdom, and vanity peculiar to a frail man, without his once looking to God, or the deſigns of his Providence.

A Compariſon between the Way the Royal George was heeled, and the Way ſhe ought to have been heeled.

The left hand column ſhews the way the Royal George was heeled, & the right hand column ſhews the way ſhe ſhould have been heeled.

The Royal George was heeled in the following manner, viz. She was heeled to port, with all her lower deck ports open, and the lower deck guns run

The lower deck guns on the larboard ſide ſhould have been houſed, and the lower deck ports ſhould have been barred in and chinch'd; the running the

run out, and the ſcuppers on that deck not plugged up, and the ſtarboard guns were on the ſame deck, eaſed in to the extent of their breechings.

The getting the middle and upper deck guns over from the ſtarboard to the larboard ſide was perhaps not unprecedented.

The throwing all the ſhot on the larboard ſide upon all the decks was alſo wrong, as they were a dead weight on the ſhip's ſide, and cannot eaſily be got over to the other ſide when the ſhip is to be righted, which may require it to be haſtily done, upon any ſudden emergency happening.

The hoiſting in the proviſions out of the hoys which were along-ſide, and putting it on the lee ſide between decks, was alſo wrong and inconſiderate, as it gave the ſhip more heel than ſhe ought to have had, and muſt have ſtrained the ſhip very much to have ſo much dead weight on the lee ſide of her as there muſt have been, and made it dangerous to overſetting, of which they ſeemed to have no idea, and it appeared as if all rational ideas and common ſenſe had forſook them at this time.

It the lower deck guns out at their ports was unprecedented in ſuch caſes, and the lower deck ſcuppers ſhould have been plugged up as tight as poſſible, and the ſtarboard lower deck guns being eaſed in as they were, was a wrong proceeding.

The middle and upper deck guns ſhould have been eaſed in as far as their breechings would let them, and not have been got over on the lee or larboard ſide as they were, which was wrong and inconſiderate, though perhaps eſtabliſhed by precedents, ſome of which are bad ones.

The ſhot when thrown over to the larboard or lee ſide on each deck, and the ſhip has a great heel, and it may be found neceſſary to right the ſhip quickly or expeditiouſly, the ſhot cannot be got over to the other ſide without much trouble and loſs of time.

The Captain ſeemed to think the ſhip could not be overſet with all the weight that could be put on the larboard or lee ſide of the ſhip, or he would not have acted here ſo inconſiderately as he did, which was contrary to reaſon and common ſenſe, as a ſeaman and an officer, he knowing the ſhip was heeled ſo much as ſhe was, with ſuch a great quantity of ſolid and dead weight, which could not, upon any accident happening, be ſpeedily removed or got over from the larboard or lee ſide to the ſtarboard or weather ſide of the ſhip.

ſhip. With the heel the ſhip had, it was impoſſible to get a gun over to windward with any number of men whatever, nor could any gun tackle purchaſe be ſufficient to get a gun over to the other ſide. The ſaid argument would hold good with getting the proviſions, ſhot, and other things, from the lee to the weather ſide of the ſhip, with an intention to right her at all, or at leaſt not in any reaſonable time to prevent an accident happening, even if the emergency ſhould happen from bad weather or otherwiſe, which might have made it abſolutely neceſſary to right the ſhip inſtantaneouſly, and it could not be done if ſo; then where was all the knowledge and experience of the officer, which ſo much ſtreſs is laid on; no inexperienced officers could have acted with leſs caution or more inattention than they did.

The manner the Royal George ſhould have been heeled.

It muſt be here obſerved, that the Royal George was put upon the heel without having caſks of water hung in the tackles, without board, to aſſiſt in heeling the ſhip upon ſuch occaſions, which was the old way of heeling a ſhip, and was both a ſafe and ſecure way of acting; for by the water caſks being hung in tackles without board, a great number of which might be hoiſted up, and by which the ſhip could be heeled to any degree that ſhould be judged neceſſary, without much riſk, or the inconveniency of getting the guns from one ſide of the ſhip to the other, which is a bad and a dangerous expedient,

To heel a ſhip with caſks, which was formerly practiſed in the following manner, either with caſks filled with freſh or ſalt water. As many caſks as could be hung to the cat-block, and hauled up to the cat-head, and alſo to the davit by the fiſh-pendant, and to the fore and main yard tackles, to the fore and main tackles, to the fore and main runners and tackles, to the mizen burtons, to luff tackles, to all the upper deck ports, fore and aft, to hoiſt caſks up by them, and alſo tackles to the timber-heads to hoiſt caſks of water up, in order to heel the ſhip as much as may be judged proper with ſafety; and a ſhip ſo heeled,

ſhould

expedient, and ſhould be diſcontinued; it being an hazardous, ſhameful, and inconſiſtent practice, as a ſhip cannot be ſpeedily righted, ſhould any ſudden accident happen that might require it to be immediately done, or ſhe be liable to be overſet.

ſhould any ſudden accident happen by bad or ſqually weather coming on, or a ſhip might happen in a tides-way to be lying with her broadſide to the wind, or the ſhip makes water by ſpringing a leak, &c. and it becomes neceſſary to right the ſhip immediately, the caſks may be lowered down inſtantaneouſly, by keeping men at the tackle falls; or, if there was immediate danger, the tackle falls might be cut, and the ſhip righted immediately, which would prevent danger; this is by far the moſt rational way of heeling a ſhip, when heeling is abſolutely neceſſary: had this method been practiſed in the Royal George, it might probably have prevented the accident that befell that unfortunate ſhip. I muſt make one remark more on the heeling the Royal George, which is, that the Maſter, Boatſwain, and Gunner were on ſhore; theſe officers ſhould have been the principal men concerned in heeling the ſhip.

One obſervation more, with reſpect to heeling the Royal George, I ſhall in this place beg leave to mention, and particularly to remind my brother ſeamen of a thing they are not much acquainted with, and therefore cannot think much about it, though it is a thing which much concerns them to know, and to make a proper uſe of, in their profeſſional practice of their duty with reſpect to a ſhip. The circumſtance I wiſh them to know is, that there is in every thing that floats on the water, and particularly in a ſhip, a thing which I call the centre of gravity; for as gravity is the conatus or tendency of bodies towards the centre of the earth, in like manner the centre of gravity in a ſhip is where the greateſt ſolid weight is in the centre

of cavity in her, which is ſuppoſed to be near the centre of motion, or according as the ſtowage of the ſhip may happen to be, or what kind of a ſhip ſhe is, and according to what ſort of cargo or materials the ſhip is loaded with, or has in her, &c. &c.

If a ſquat low built ſhip, and the contents of the ſtowage of her hold ſhould happen to be heavy ſolid matter, the centre of gravity will lie low in her. If the ſtowage of her hold ſhould happen to be of lighter matter, the centre of gravity will be higher, and ſo in proportion as the ſhip's hold may happen to be ſtowed with heavy or light matter, &c. &c. But in a lofty ſhip, the centre of gravity will require to be kept lower than in a ſhip as before-mentioned; and it is to be obſerved, if the centre of gravity lies too low, ſhe will be uneaſy in the ſea, will be labourſome, and apt to throw away her maſts. If the centre of gravity ſhould happen to be too high, the ſhip will be crank, and will not bear her ſail well, or will not carry ſail. Therefore the judgment of the ſeaman ſhould be to keep the centre of gravity as near the centre of cavity as it may be in his power, in order to make the ſhip eaſy in the ſea, and that ſhe may be able to bear her ſail in all kinds of weather.

But in a large ſhip of war with three decks, with three tier of guns, and a very high hull above the ſurface of the water, it then becomes the ſeaman's buſineſs and his duty to conſider where the centre of gravity will be in ſuch a ſhip when ſhe has all in and fit for the ſea, that he may judge how ſhe will bear her maſts, yards, and ſails, and how ſhe will act in every kind of weather, and particularly in a ſtorm, when the great force of wind and waves will act with much violence upon her; as it is one thing to manage a ſhip in a top gallant gale, and another thing to manage a ſhip in a violent ſtorm, when life and ſhip are all at riſk. Let every ſeaman conſider this, and act with caution, prudence, and circumſpection, as a prudent man ſhould do.

Let us weigh all things that come under our care and notice in the line of our duty, with that attention that a rational man ſhould do when he conſiders the line he acts in, and what he is anſwerable for,

and

and what is committed to his charge and care as a ſeaman and an officer; and in order to impreſs his mind with proper ideas of his profeſſional duty, and things intruſted to his care, I ſhall beg leave to mention ſome things relative thereto, viz.

I will ſuppoſe a ſeaman and an officer to have the fitting out of a three deck ſhip of the firſt rate, as the Royal George was, and he has got his proportion of iron and ſhingle ballaſt into the ſhip, and his ground tier is ſtowed; or I will ſuppoſe the ſhip's hold is completely ſtowed with water, beer, proviſion, and all that can be contained in the hold, or that can be put into it: let the officer compute the tonnage put into the hold, and then compute the tonnage of the ſtores, &c. put into the orlop, ſuch as cables, hawſers, &c. and the ſails and ſtores that are put into the officers ſtore-rooms, &c. which are ſuppoſed to be below the line of floatation, and which he will find amount to many hundred tons.

Next let him conſider what there is above the line of floatation to counterbalance what there is below it, and from thence conclude whereabouts the centre of gravity may be. Firſt, we will ſuppoſe the ſhip has all in, and is ready for ſea, and ſhe draws twenty-four feet water, or the ſhip is immerged ſo many feet in the water, with the cavity of the ſhip, that is to ſay, the hold and orlop, and the officers ſtore-rooms, properly ſtowed with as much as they can contain, or with as much as there is ſpace and room for, or with as much as is uſually put into a ſhip of the firſt rate; then compute exactly the tonnage, which will be many hundred tons, and then compute and calculate the ſhip's hull in the following manner: the ſhip draws twenty-four feet water, or ſhe is immerged twenty-four feet from the line of floatation under water, and we find the ſhip's height above the water, then take the medium of the height of her hull, I will call it thirty-eight feet above water, and the ſhip is immerged in the water twenty-four feet; this will ſhew that there is fourteen feet more of the ſhip above the line of floatation than there is immerged in the water, which ſhews there is more than one third part of the ſhip above the water than there is immerged in it.

The

The next conſideration is, what weight there is put upon this part of the ſhip that is above the water, and whether it may not counter-balance that weight which is under water; this is a conſideration well worth the ſeaman's attention, and will lead him to a clear and plain demonſtration of the thing he wants to know; then let him conſider the ſhip has three decks, three tier of guns, heavy metal, with carriages, ſhot, &c. appertaining to them, and there are alſo guns on the quarter-deck and forecaſtle. The next conſideration is the ſhip's anchors, which lie very high on the ſhip, ſome of them nearly upon a line with the gunwale, which are very heavy; then conſider the weight of the booms, or raft, that is ſtowed upon the gallows, from the quarter-deck to the forecaſtle, ſuch as the ſpare top-maſts, yards, fiſhes for maſts, rough ſpars, &c. of which the booms are compoſed, and which lie very high, being upon a line with the quarter-deck and forecaſtle; and to the booms are laſhed the ſkids for ſtowing the boats upon, and when all the boats are hoiſted in, and are ſtowed upon the ſkids, they are three or four feet above the gunwale, and their ſtanding ſo high is a great additional weight to the ſhip, being thirty-eight or forty feet above the line of floatation, or the water's edge.

The next thing let the ſeaman conſider the height of the ſhip's lower maſts, top maſts, and top-gallant maſts, with the great weight of rigging to them, and the weight of the lower yards, top-ſail yards, and top-gallant yards, with the great weight of the ſails, and the additional weight of cordage and tackle appertaining to them, being heavy, and a great height above the ſhip, and ſtill a greater height above the line of floatation, or above the water's edge. I ſay, when all this is duly conſidered, and properly weighed in the mind of a rational man, and a fair computation made of all the weight in and about a ſhip, above the line of floatation, or the water's edge, and the weight contained in the cavity of the ſhip, or below the water's edge, it will lead him to judge where the centre of gravity in ſuch a ſhip may be; and, I am of opinion, when found, it will not be far below the line of floatation, or the water's edge, perhaps not more than three and a half or four feet, or may not be ſo much below the line

of

of floatation. Should this be proved by mathematical demonſtration, it will ſhew how cautious ſeamen ſhould be in the management of thoſe great ſhips (this ſeems to have been a thing not conſidered in the heeling the Royal George). If the centre of gravity ſhould be found to be ſo high as I have before mentioned, and when the force of the wind is to be added to the great weight that is about the ſhip above the line of floatation, it appears wonderful how ſhe acts at all at ſea, or how ſhe ſupports herſelf ſo well as ſhe does, and particularly ſo great a body, when acted upon by the force of the wind and waves, therefore the centre of gravity ſhould be kept as low as poſſible in thoſe ſorts of ſhips. When all things are conſidered and duly weighed in the ſcale of ſenſe and reaſon, what I mean by this remark is, the miſtaken idea we have of conſtructing our ſhips, which is truly abſurd, contrary to common ſenſe, and diametrically oppoſite to reaſon and experience, from which I ſhall conclude with ſhewing the truth of what I have advanced.

As I have ſaid much upon this matter in another place, I therefore ſhall ſay but little of it here, only that I have not mentioned it before in the place alluded to (ſee page 156 of the work) which is, that our ſhip conſtructors in forming our ſhips give them two extreme breadths, being the ſame dimenſions or the ſame number of feet and inches, one called the lower, and the other the higher or upper extreme breadth; the diſtance between the lower and higher extreme breadth in a three-decked ſhip is eight, nine, or ten feet: theſe extreme breadths being of the ſame dimenſions, a line drawn from the upper to the lower extreme breadth, of courſe will be found to be a perpendicular line, or a dead ſtraight line in the ſhip's ſide from the midſhips, both fore and aft, until you come to the round of the bow and the buttock of the ſhip; when the ſhip has all in for the ſea, and is at her full draught of water, this lower extreme breadth (as it is ridiculouſly called) is far below the line of floatation, ſix, ſeven, or eight feet, and the higher extreme breadth may happen to be one, one and an half, or two feet above the line of floatation of the ſhip.

Of a ſhip's extreme breadth.

I have ſaid before, the ſhip is conſtructed with two extreme breadths, the upper and the lower, the lower is many feet under water, the upper is one or two feet above the water; where or what is the uſe of it, ſince the upper extreme breadth of the ſhip is of no greater dimenſions than the lower extreme breadth, which is many feet under water? I aſk, ſuppoſe the upper extreme breadth was as much above the water as the lower extreme breadth is below it, would it make the ſhip any ſtiffer, or make her bear her ſail better, with the great weight of maſts, yards, and rigging, that is high above the hull of the ſhip? I anſwer, no, it is the height of abſurdity to think it would, as the upper and lower extreme breadths are of the ſame dimenſions, and perpendicular to each other. This ſhews that there is nothing in a perpendicular line that can ſupport a ſhip when preſſed with ſail, and her extreme breadth is under water; ſhe muſt heel greatly and fall over on her broadſide, and nothing can ſave her but by ſhortening ſail, or, in other words, taking in the ſails, and that to be inſtantaneouſly done, or the ſhip is gone; this I believe wants no confirmation, as there are experienced ſeamen enough living to prove the truth of what I have ſaid; and I am alſo fully perſuaded, that there are numbers of ſeamen now living who can prove that they have been obliged to cut away their maſts, to prevent their ſhips from overſetting or foundering in a ſtorm, on account that the ſhip could not bear them. I have myſelf been in a very capital ſhip, when we were neceſſitated to cut away our maſts to ſave the ſhip from foundering in a ſtorm, having at that time only a reeft and balanced mizen, main and mizen ſtay-ſails ſet, the ſhip lay on her broadſide for twelve or fifteen minutes motionleſs, and nothing could ſave her but the expedient we made uſe of: all this owing to the falſe or miſtaken conſtruction of our ſhips.

Errors ariſing from the miſconſtruction of our ſhips.

I therefore ſhall beg leave to give my opinion how a ſhip might be conſtructed to bear her maſts, yards, and ſails better in all kinds of weather, and I am ſure the ſhip would be found to ſail better or faſter, would carry her guns and lower deck ports better, and would anſwer every good end with reſpect to a ſhip's performing the ſervice ſhe is intended

intended for, and would anſwer the expectation of the ſeaman and the officer. I will then ſuppoſe that an experienced ſeaman, who has any idea of a ſhip or her defects, will ſee the folly and abſurdity of conſtructing ſhips as they now are, which is contrary to ſenſe and reaſon; and I therefore beg leave to ſay, by way of improvement in the conſtruction of a line of battle ſhip, the following method ſhould be purſued, which is, that from the line of floatation, or the light water mark, or from the lower extreme breadth of a ſhip, ſhe ſhould carry her extreme breadth conſiderably above the line of floatation, when the ſhip has all in, and is ready for the ſea; the ſhip's extreme breadth ſhould be gradually increaſing from the lower extreme breadth to the line of floatation, or to the water's edge, and progreſſively on to nearly as high as the ſills of the lower deck ports, this would give the ſhip a capacity to bear her ſail in every kind of weather, and would contribute much to her ſailing faſter, and would make her carry her lower deck ports higher, or to greater advantage*; this increaſe of extreme breadth in a line of battle ſhip ſhould be at leaſt three and a half or four feet above the line of floatation, or the water's edge, when the ſhip is as deep in the water as ſhe will be when ready for the ſea; and a ſhip or large frigat, with only one tier of guns, ſhould have her extreme breadth two and a half or three feet above the line of floatation, or the water's edge, when ſhe has all in and ready for the ſea; and a ſmaller ſhip in proportion: this will make the ſhip lively in the ſea, will make her bear her ſail well and ſail faſt, and will anſwer every good end that can be wiſhed, and would remove the preſent evil in the miſconſtruction of our ſhips, which is abſurd to a degree.

Where the extreme breadth of a ſhip ſhould be placed.

I ſhall beg leave to mention a circumſtance that happened to a ſhip I ſerved in many years ago (1757): ſhe was a capital two-decked ſhip, and we were a public ſhip in a large fleet, and at that time were in Halifax-Harbour, in North-America, and had ſprung a leak and made much water; it was judged neceſſary to heel the ſhip to try to

An inſtance of heeling a ſhip to ſtop her leaks, and the ill conſequences that were likely to have happened in conſequence of that proceeding.

* I muſt beg leave to obſerve, that the lower decks of our line of battle ſhips, in the conſtruction of them, are laid too low, or, in other words, are not laid high enough for the ſhip to carry her lower deck ports well in every kind of weather, and particularly in rough weather,

ſtop

ſtop the leak, which was accordingly done; the leak was ſeveral ſtrakes under water, and near the midſhips on the ſtarboard ſide. I recommended the mode of heeling the ſhip, to have as many caſks of water as could be hoiſted up in tackles on that ſide the ſhip was to be heeled to, being the larboard ſide, we overhauled the cat, and hoiſted as many caſks up to the cat-head as it would bear, rigged out the davit, and hoiſted up as many caſks as the fiſh-pendant and davit would bear, and as many caſks by the fore-yard tackle, and a tackle on the quarter of the yard, as they could bear, and hoiſted as many caſks in the fore tackles, runners, and tackles, as they could bear, and did the like to the main-yard tackles, quarter tackles, main tackles, runners, and tackles, &c. and to the mizen burtons, and had luff tackles to all the upper deck ports fore and aft, and hoiſted up caſks of water to them, which gave the ſhip a conſiderable heel with this method only. But this was not thought ſufficient by inconſiderate men; the lower deck guns, being thirty-two pounders, were ordered to be eaſed in as far as the breechings would let them, and ſeveral of the breechings were caſt off, and the guns got over to the larboard or lee ſide, which I remonſtrated againſt, as it was a dangerous expedient, as they could not be got over again to windward with all the art and power of man, with the heel the ſhip then had; but we had prudence enough before we heeled the ſhip to bar all the lower deck ports in, and to plug up the lower deck ſcuppers, though the ſhip carried her lower deck ports very high; this was fortunate for us, as things afterwards happened; for in ſpite of all that could be ſaid, the whole of the upper and quarter deck guns were got over from the ſtarboard to the larboard ſide, and all the ſhot thrown over on the ſame ſide, ſo that the ſhip had a moſt extraordinary heel indeed, inſomuch that I was apprehenſive the ſhip would be overſet. At this juncture of time the commanding Admiral made the ſignal for me to come on board his ſhip; when I got on board, I found him on the quarter-deck: he aſked me with great warmth, if we were going to overſet our ſhip? To which I anſwered, that I did not think it was intended, but I thought there was a riſk of its happening ſo, for the ſhip had too great a heel. The Admiral was ſo much

agitated

agitated at his ſeeing our ſhip on ſo great a heel, that he ordered one of his lieutenants, who was juſt putting off from the ſhip, and going upon other ſervice, to row to the G——, and tell the commanding officer it was the Admiral's orders that they ſhould right the ſhip immediately; but before the officer got to the ſhip, the alarm was given that ſhe was ſettling in the water, and would have inſtantly been overſet, it not being in the power of man to get a gun or a ſhot over from the lee to the weather ſide, and the ſhip muſt have inevitably been loſt, but for the great number of caſks of water that were hoiſted up along-ſide without board, which was the only thing that ſaved her; by cutting the tackle-falls the ſhip was relieved, and ſhe immediately righted, ſo that we could get the guns over to the other ſide, by which means the ſhip was ſaved: and but little could be ſaid for ſuch inconſiderate raſhneſs and folly, to call it no worſe.

The centre of gravity further explained

As I have before mentioned the centre of gravity in a ſhip, I ſhall in this place ſpeak again of it, that unthinking men may have a clearer idea of it and its conſequence in a ſhip. When a ſhip is upright, the centre of gravity may be ſuppoſed to be nearly in the centre of the ſhip, and in ſuch a ſhip as I have been ſpeaking of, a large two-decked line of battle ſhip, it is ſuppoſed to lie not far below the line of floatation, perhaps not more than three and a half or four feet, or at moſt not more than four and a half feet below the line of floatation; that admitted, let us ſee where it will be when the ſhip is heeled in the extraordinary manner I have juſt mentioned, with all the guns got over on one ſide of the ſhip, with the ſhot and every thing that is moveable, and the great weight of maſts, yards, rigging, and ſails, which is ſo high above the hull of the ſhip, or acting againſt her, and preſſing her down: where will the ſenſible or the thinking man ſuppoſe the centre of gravity to be, or can be removed to? It is removed from the centre of the ſhip, and is carried entirely on one ſide of her; the extreme breadth of the ſhip, the only thing that ſhould be her ſupport, is many feet under water; and ſo much heavy ſolid weight being put on one ſide of the ſhip, and her heel is ſo great, that the centre of gravity acts againſt her, and helps her to overſet, or turn her over; and by the injudicious management of heeling the ſhip, ſhe is brought ſo near

an equilibrium that the ſmalleſt additional weight will turn her over, or, in the ſeaman's phraſe, will overſet her; ſo nice the equilibrium may be ſuppoſed to be, that a crow alighting on the top-gallant-maſt head may overſet the ſhip.

Reflections on a ſhip's heeling when under ſail.

And had the good people in the Royal George the leaſt conception of this matter, or had they been poſſeſſed with an idea that a ſhip, either at an anchor or under ſail, when ſhe is preſſed with a great weight of matter, or wind on one ſide of her, and ſhe is preſſed beyond her extreme breadth, which is underſtood to be beyond her bearings, ſhe is in danger of overſetting; and if at ſea and under ſail, and there is a high ſea, and the ſhip is preſſed by her ſails to heel near thirty-ſix or forty degrees, and is falling down between two ſeas, and a heavy ſea ſhould ſtrike her at the ſame time and make her heel more, ſhe will ſurely overſet, and is a gone ſhip; for if ſhe was brought to heel forty-four or forty-five degrees, and in a calm, ſhe would moſt aſſuredly overſet: this ſhews that ſeamen ſhould have ſenſe, reaſon, and cool reflection, and alſo a perfect knowledge of their profeſſional buſineſs, and not be contented with knowing the main tack, main-top bowline, and a few things more; they ſhould have a very comprehenſive knowledge of things relative to a ſhip, and a ſeaman's duty.

An inſtance of a ninety-gun ſhip being overſet when under ſail.

This leads me to ſome further remarks and obſervations on large ſhips with three decks, and how they act when under ſail at ſea, and how unfit they have been found to bear their maſts and yards, or to carry their ſail when there has been much wind, which has occaſioned much fear, pain, and anxiety to thoſe that have ſailed in them. I am about to ſpeak of ſhips with three decks that carry ninety guns, commonly called ninety-gun ſhips: the M—lb——gh, formerly a ninety-gun ſhip, in going from the Nore to the Downs, was nearly overſet off the Longſand-Head, in hauling round the ſaid ſand in a freſh of wind, or a ſquall coming on juſt as ſhe hauled her wind, ſhe fell over on her ſide, and was nearly gone or overſet, which frightened all on board her; and ſhe would have been loſt, but for a brave ſeaman on the forecaſtle, who called out to the officers on the quarter-deck, "Shall we let go the anchor, it will ſave the ſhip?" The officers anſwered Yes, or Aye, Aye, which was immediately let go, and brought the ſhip

head

head to wind, and ſhe righted; they took in the ſails, and by that means ſaved the ſhip, owing to the bright thought of an honeſt ſeaman on the forecaſtle. This ſhip was ever after found to be a crank and tender ſhip when under ſail; upon every puff of wind ſhe would heel ſo as to bring her entering port in the water, which is on the middle deck, this gave great anxiety to the people that ſailed in her. I had this information from ſome of my particular acquaintance, officers who ſailed in her when ſhe was a flag ſhip.

I muſt here obſerve the miſtaken idea that ſeamen have with reſpect to filling caſks with ſalt water; they imagine it ſpoils the caſks for their proper uſe, ſo much that when they come to be filled again with freſh water, they think it would be bad and unfit for men to uſe, which I muſt beg leave to tell them is a miſtake; and I am well aſſured this idea has often prevented them from filling their caſks with ſalt water, which ſhould have been done, and is abſolutely neceſſary, in order to ſtiffen the ſhip to prevent accidents happening, as in the caſe we have juſt mentioned.

In the courſe of my long ſervice, I never heſitated to fill the caſks in the hold with ſalt water when it was neceſſary, and even the caſks in the ground tier, as the freſh water was expended, and never failed to fill them with ſalt water, and for good reaſons, as they lie ſo low in the ſhip's hold it is neceſſary that they ſhould be filled with ſalt water, in order to ſtiffen the ſhip and make her bear her ſail, in preference to any other caſk, as having a better effect on the ſhip.

Remarks with reſpect to filling the empty caſks in the hold with ſalt water, without prejudice to them.

Some men will ſay, under thoſe circumſtances the caſks in the ground tier after being filled with ſalt water will be unfit for the uſe they are intended for, and that they muſt be all unſtowed and got upon deck, well ſcrubbed and cleaned on the inſide, and rinced with freſh water, and filled and ſtarted again before they can be fit for their proper uſe; this proceeding would occaſion great loſs of time and delay of ſervice, when ſhips return from ſea and are again immediately ordered on ſervice. In anſwer to which I ſhall beg leave to ſay, that all this precaution is entirely unneceſſary, and ſhall ſay what I myſelf have done upon ſuch occaſions. I would not unſtow one caſk in the ground tier, but would pump the ſalt water out of them, and ſwab them dry with

with a hand-ſtick ſwab made for that purpoſe, and would then pour three or four buckets of freſh water into each caſk of the ground tier, and pump it out again, and ſwab the caſk out dry with the ſtick ſwab as before mentioned; I would then fill the ſaid caſk with freſh water and bung it up, and I will take upon me to ſay the water in ſuch a caſk will be found as good as any in the ſhip; and with reſpect to the gang caſks that may have been filled with ſalt water when the ſhip was at ſea, they being generally ſent on ſhore to the watering-place when the ſhip comes into any port, where they are then uſually well rinced and cleanſed, and may be filled again with great ſafety, and the water in them will be found as good as any in the ſhip, this I have always found by experience. I hope from this it will appear that no detriment can ariſe in filling the caſks in a ſhip's hold with ſalt water, and particularly when it is abſolutely neceſſary to be done by way of ſtiffening the ſhip, and to enable her to carry ſail with ſafety.

One obſervation more I muſt beg leave to make on this head, which is, when a ſhip has been long at ſea, and has expended a great deal of her beer, water, and proviſions, which has lightened her very much, and has brought the ſhip to be ſo light that the finer part of her bottom being only in the water, occaſions her to be very crank and unfit to bear her ſails, and alſo occaſions her to roll and labour more in the ſea than when ſhe was deeper in the water. This is a good and ſufficient reaſon why the caſks in the hold ſhould be filled with ſalt water, to make the ſhip bear her ſails in all kind of weather, and will anſwer every good end and purpoſe with reſpect to the ſafety of the ſhip.

I have lived now long enough to ſee the navy three times new rebuilt, from a ſloop to a firſt rate, with all the improvements that have been made in fifty-five years, and ſtill there is room for more improvements, which I ſincerely wiſh may happen, and ſoon, and that they may tend to the general good of the public; and as far as my poor abilities will go to anſwer ſo good an end, I ſhall cheerfully contribute all in my power to ſo good a purpoſe, as I know it will prove ſo beneficial to the ſervice. This is a ſubject well worth the attention and conſideration of wiſe and judicious men, who are lovers of their country; they cannot more eſſentially ſerve it than by promoting any thing that tends to the good of the naval ſervice; nothing, in my opinion, ſo abſolutely neceſſary to the welfare of this country.

F I N I S.

The Author was firſt Maſter Attendant, at Chatham Yard. when Captn. Peter Rainier (who was mate in the Elizabeth 74 with him) Commiſſion'd the Suffolk 74. as we had done Monarch two years before. - B.W. Page Lieut.r & First of Suffolk Jan.y 4 1779